# AN INDEPENDENT TECHNICAL REPORT ON THE NALUNAQ GOLD PROJECT, SOUTH GREENLAND



**Prepared for**

## NALUNAQ A/S

**Report prepared by**

srk exploration

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ES7664


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# An Independent Technical Report on the Nalunaq Gold Project, South Greenland


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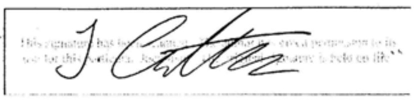
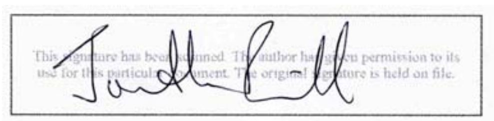


**James Gilbertson, CGeol**



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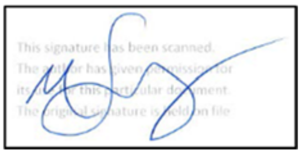

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# IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* Technical Report for Nalunaq A/S by SRK Exploration Services Ltd. (SRK ES). The quality of information, conclusions, and estimates contained herein are consistent with the quality of effort involved in SRK ES' services. The information, conclusions, and estimates contained herein are based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Nalunaq A/S subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Nalunaq A/S to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Nalunaq A/S. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

# AN INDEPENDENT TECHNICAL REPORT ON THE NALUNAQ GOLD PROJECT, SOUTH GREENLAND

## EXECUTIVE SUMMARY

### Introduction

SRK Exploration Services Ltd. ("SRK ES") is part of the global SRK Consulting Group and has been commissioned by Arctic Resources Capital hf ("ARC") to produce an Independent Technical Report for the Nalunaq gold project located in South Greenland. The report has been prepared for Nalunaq A/S, a Greenlandic Joint Venture company of which ARC is a majority shareholder and FBC Mining (Nalunaq) Ltd. ("FBC Nalunaq") is a minority shareholder.

It is SRK ES's understanding that the intention is for all of the outstanding shares of Nalunaq A/S to be transferred to Alopex Gold Inc. ("Alopex"), such that Nalunaq A/S will become a wholly-owned subsidiary of Alopex, and that Alopex proceed with an initial public offering of its shares.

Nalunaq is a former producing gold mine that demonstrates potential for additional resources to be defined through new exploration.

SRK ES' work has included a review of historic data and visits to the property to conduct exploration and inspection works. A geological model and Mineral Resource estimate have also been prepared for the Nalunaq project. The outcomes of this, including recommendations for further exploration, are presented in this report which has been prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource statement was prepared in conformity with generally accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*.

SRK ES understands that this technical report will be used by Alopex to support an application for the listing of the Alopex Shares on the TSX Venture Exchange.

### Property description and ownership

The Nalunaq property is located in South Greenland at 60º21'N latitude and 44º50'W longitude in the Municipality of Kujalleq. The property includes a former underground gold mine (closed in 2013) and is situated on the northern side of the Kirkespirdalen Valley, about 33 km northeast of the town of Nanortalik.

The project area lies within Exploitation Licence number 2003/05 which covers an area of 22km$^2$. The licence was granted to Crew Gold Corporation in April 2003 and is valid until April 24, 2033. Angel Mining PLC, through its wholly owned subsidiary Angel Mining Gold A/S ("AMGAS"), purchased the project from Crew Gold in 2009. Arctic Mining Limited, a wholly owned UK subsidiary of Angel Mining Plc carried out all mining operations until closure of the mine in 2013. Despite closure, the Exploitation Licence remained in force In July 2015, FBC Mining (Holdings) ltd and ARC entered into a Collaboration Agreement agreeing to progress the project through a Greenlandic joint venture company, Nalunaq A/S, with ARC and FBC holding 66.67% and 33.33% respectively. AMGAS and Nalunaq A/S entered into a sale and purchase agreement in October 2015 and the Licence was transferred to Nalunaq A/S being formally approved 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 former mine is located about 9 km inland and can be accessed from the town of Nanortalik by boat and then 4x4 vehicle along a gravel road, or by helicopter. All surface infrastructure was removed when the mine closed, with the exception of a jetty at the coast and the 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 the development of exploration drives and raises on the mineralised structure, Crew Gold commenced mining at Nalunaq in 2004 using longhole open stoping methods. They did not carry out any mineral processing on site but instead shipped broken ore 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.

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 (tailings and waste rock were 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 Ketilidian Mobile Belt which evolved between 1,850 Ma to 1,725 Ma during subduction of an oceanic plate under the southern margin of the Archaean North Atlantic Craton.

The former mine is within the Nalunaq Mountain, the geology of which is dominated by a package of fine- to medium-grained tholeiitic basalt flows and locally coarser, sub-concordant doleritic sills, 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 a feature known as the Main Vein ("MV"). This is dominated by quartz veining 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.

The MV crosscuts the stratigraphy at a very low angle. 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 is associated with the MV on one or both sides of the vein, extending for between 0.2 m and 1.0 m from the vein. The alteration assemblage may contain 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 and such material may contain the majority of gold in the coarse (>100 µm) fraction. Locally, gold 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 structure but, as discussed in this report, SRK ES suspects that the grade zonation may, at least in part, be an artefact of sampling on and off the mineralised structure.

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. In SRK ES' opinion, faulting may be more extensive than previously thought and SRK ES has interpreted 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. Previous 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 30,478 m of surface drilling, 5,572 m of underground drilling, 458 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 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 confirmed up-dip and along strike by surface sampling on the north, west and southwest faces of the mountain, with the latter two areas producing grades of 32 g/t gold and 23 g/t gold in grab samples in Nalunaq A/S's 2015 and 2016 fieldwork respectively. This has outlined an exploration area that extends about 1,000 m across strike and up to 800 m up-dip from the former mine. Furthermore, historic drilling indicates down-dip continuity below the South Block.

Continuation of mineralisation along strike is also supported by SRK ES' 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. This has resulted in the current model of plunging high grade ore shoots, potentially being inaccurate, although a degree of directionality in grade cannot be discounted. Deviation of the drives and the presence of the MV a short distance from the drives was in fact confirmed in the first exploration adits at Nalunaq, but never accounted for in future mine planning.

Previous exploration has also suggested the presence of mineralised structures about 100 m above and 100 m below the MV respectively. Additional zones of mineralisation cannot be ruled out and their investigation should be allowed for in future exploration.

## Mineral Resource Estimate

SRK ES has produced a Mineral Resource estimate for the Nalunaq project based on the data available and their understanding of the geological model (Table 1). 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 remnant material within the mine that could practically and safely be mined as part of a larger exploration or mining operation.

It must be noted that the Mineral Resource estimate was compiled on the basis that high grade mineralisation was present in plunging ore shoots. However, SRK ES' new structural interpretations and the confirmation that the MV persists for significant distances away from the mine area represent upside to the resource potential, but also mean that resource modelling parameters may need to be modified. The new interpretations require further investigation in 2017 and therefore their influence has not been incorporated into this Mineral Resource Estimate.

**Table 1: Nalunaq 2016 Diluted Mineral Resource**

| Zone | Classification | Tonnage (t) | Grade (g/t Au) | Contained Gold (oz) |
|---|---|---|---|---|
| Remnant Material | Inferred | 18,900 | 27.6 | 16,770 |
| Mine Area | Inferred | 428,000 | 17.9 | 246,300 |
| **Total Inferred** | | **446,900** | **18.7** | **263,070** |

*Notes:*

1. *Remaining Stopes reported at 5.5 g/t gold, Mine Area reported at a cut-off grade of 5.5 g/t gold*
2. *Diluted to 1.8 m true width at 0.0 g/t gold*
3. *Cut off calculated using a gold price of USD 1,300/oz*
4. *Total refining, transportation and royalties costs of USD 50.00/oz*
5. *Total operating costs of USD 200/t*
6. *All figures are rounded to reflect the relative accuracy of the estimate*
7. *Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.*
8. *100% of the Mineral Resource is attributable to Nalunaq A/S*

In addition to the in-situ Remnant Material included in the Mineral Resource estimate, SRK ES believes that a significant volume of gold-bearing sweepings are present in the mine area. This is unconsolidated fine material on the floors of drives that was left from blasting and mucking operations. This was sampled in 2016 and produced grades of up to 32.85 g/t gold. Sweepings represent material that hold the potential to be extracted, at low cost, alongside exploration or mining operations.

Conversion of the Inferred Mineral Resources to Indicated or higher resource categories in the "Mine Area" requires additional underground development and detailed sampling with robust QAQC procedures. 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. 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 of Nalunaq Mountain. Exploration data provides evidence for this potential, and SRK ES has defined an Exploration Target for the project.

## Exploration Target

SRK ES has extrapolated their estimate from the Mine Area out across the rest of the known MV structure as well as down-dip below the South Block based on historic surface diamond drilling and channel sampling as well as the newly acquired surface samples in 2015 and 2016 that demonstrate the continuity of the MV. SRK ES considers this area as holding significant resource potential and has outlined an Exploration Target of 80 koz gold to 1.2 Moz gold contained within 1 Mt to 2 Mt grading between 2.5 to 19.0 g/t gold.

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 current Mineral Resource and SRK ES cautions that there is a risk that further exploration will not result in the delineation of a Mineral Resource.

## Conclusions and Recommendations

The vast majority of (non-compliant) reserves previously defined at 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. Historical exploration, and particularly the work undertaken by Nalunaq A/S in 2015 and 2016, indicates the potential for significant additional resources, defined in this report as an Exploration Target. SRK ES therefore considers that further exploration is warranted.

Surface diamond drilling has been recommended in lower parts of the mountain in order to provide in-fill exploration coverage around the South Block, confirm strike extensions from the South and Target Blocks and to investigate the potential for additional mineralisation in the hanging wall.

Further surface sampling is required on the MV outcrop on the southwest side of the mountain in order to add confidence to the 2016 observations and continue sampling down-dip.

The terrain on the upper parts of Nalunaq Mountain, where much of the exploration potential lies, is not amenable to surface diamond drilling on a regular pattern. Therefore, SRK ES has recommended the development of two exploration drives in the footwall, one from the top of the Target Block and one from the top of the Mountain Block. These would extend for 950 m each, parallel to the strike of the MV, and underground drilling in a fan pattern would be undertaken at 50 m centres along the drives, thus intercepting the MV at regular intervals. SRK ES considers that this is the best option for defining the MV geometry and Inferred Resources in the exploration area; conversion of these resources to Indicated or higher categories would require detailed sampling and bulk sampling in raises and drives developed on the MV itself. The footwall drives can also be used to explore for additional mineralised structures below the MV.

Should mining resume at Nalunaq in the future, alternative mining methods to the previous longhole open stoping should be considered. SRK ES' initial review of this suggests that room and prop or resue cut-and-fill methods may allow better control and reduced dilution; further investigation is needed depending on the nature of any newly-defined resources.

Provisional cost estimates for the first-phase exploration tasks are as listed below, Table 2. These do not include the proposed underground development as this is estimated at CAD 11,000,000 and is regarded at this stage as following or augmenting the Phase 1 exploration.

**Table 2: Phase 1 Sampling and Drilling Budget**

| Item | Cost (CAD$) |
|---|---|
| Mobilisation and demobilisation of drilling and mountaineers | 102,000 |
| Drilling (3150m) | 469,000 |
| Drilling indirect (logistical support on site) | 148,000 |
| Surface Reconnaissance and sampling (Mountaineers) | 148,000 |
| Mining method and Remnant Mining Investigation | 67,000 |
| Helicopter support | 130,000 |
| Assay cost | 42,000 |
| Project management and other | 40,000 |
| Reporting | 34,000 |
| **Total** | **1,180,000** |

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# AN INDEPENDENT TECHNICAL REPORT FOR THE NALUNAQ GOLD PROJECT, SOUTH GREENLAND

## 1 INTRODUCTION AND TERMS OF REFERENCE

The Nalunaq project is a gold exploration project located at the site of the former Nalunaq gold mine in South Greenland, about 33 km northeast of the town of Nanortalik. The project is covered by an Exploitation Licence in the name of Nalunaq A/S, a Greenlandic Joint Venture Company, whose majority shareholders are Arctic Resources Capital Sarl ("ARC") working in collaboration with minority shareholders FBC Nalunaq..

In February 2014, ARC commissioned SRK Exploration Services Ltd. ("SRK ES", part of the SRK Consulting Group) to review historic data for the Nalunaq project. Further commissions included visiting the property, undertaking exploration and preparation of a geological and Mineral Resource model for the Nalunaq project. The services were rendered between February 2014 and December 2016.

This technical report summarises the information available for the Nalunaq project and demonstrates that the project qualifies as an "advanced exploration property" as defined by the Toronto Stock Exchange. In the opinion of SRK ES, this property has merit and warrants additional exploration expenditures. An exploration work program is recommended comprising diamond core drilling, underground development to facilitate exploration drilling, and geological and Mineral Resource modelling.

This report also documents a Mineral Resource statement for the Nalunaq project prepared by SRK ES. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource statement reported herein was prepared in conformity with generally accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*.

SRK ES understands that this technical report will be used by Alopex to support an application for Tier 2 listing on the TSX Venture Exchange. Some of the listing requirements include:

- The issuer has Significant Interest in a Qualifying Property;
- Sufficient evidence of no less than $100,000 of Approved Expenditures by the issuer on the Qualifying Property within a 36 months period preceding the application for listing;
- A work program with an initial phase of no less than $200,000, as recommended in a Geological Report;
- Adequate Working Capital and Financial Resources to carry out the stated work programme or execute a business plan for 12 months following listing and $100,000 in unallocated funds;
- Public Float of 500,000 shares: 200 Public Shareholders each holding a Board Lot and having no Resale Restrictions on their shares and 20% of issued and outstanding shares in the hands of Public Shareholders; and,
- A Geological Report recommending completion of a work programme.

### 1.1 Scope of Work

The scope of work, as defined in a letter of engagement executed on 21 February 2014, 24 August 2015 and 23 May 2016 between ARC and SRK ES, includes the construction of a Mineral

Resource model for narrow-vein gold mineralisation delineated by surface and underground sampling and drilling on the Nalunaq project. It also includes the preparation of an independent technical report in compliance with National Instrument 43-101 and Form 43-101F1 guidelines. SRK ES was further engaged to carry out geological investigations and mining and geotechnical assessments. The work involved the assessment of the following aspects of this project:

- Topography, landscape, access;
- Regional and local geology;
- Exploration and mining history;
- Audit of exploration work carried out on the project;
- Geological modelling;
- Mineral resource estimation and validation;
- Preparation of a Mineral Resource Statement; and,
- Recommendations for additional work.

## 1.2 Work Programme

The Mineral Resource statement reported herein has been produced by SRK ES personnel. The exploration database for the Nalunaq project as received by SRK ES was compiled and maintained by Geological Survey of Denmark and Greenland (“GEUS”) following closure of the Nalunaq mine, and was audited by SRK ES. The geological model and outlines for the gold mineralisation were constructed by SRK ES from the geological and exploration data and a two-dimensional geological interpretation provided by GEUS. In the opinion of SRK ES, the geological model is a reasonable representation of the distribution of the targeted mineralisation at the current level of sampling. The geostatistical analysis, variography and grade models were completed by SRK ES during the months of September to December 2015 and updated in November and December 2016.

The Mineral Resource Statement reported herein was prepared in conformity with the generally accepted CIM *Exploration Best Practices Guidelines* and CIM *Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines*. This technical report was prepared following the guidelines of the Canadian Securities Administrators’ National Instrument 43-101 and Form 43-101F1.

In addition to the Mineral Resource statement, SRK ES has also completed three phases of technical work at the Nalunaq project on behalf of Nalunaq A/S in September 2015, June/July 2016 and August 2016. This involved an assessment of underground conditions in the mine, an inventory of in-situ mineralisation remaining in the mine area, underground geological investigations, metallurgical sampling and the coordination of surface sampling. SRK ES has also been responsible for the compilation and interpretation of results arising from this work.

The technical report was assembled at SRK ES’ office in Cardiff, UK, during the months of September to December 2016.

## 1.3 Basis of Technical Report

This report is based on information collected by SRK ES during site visits performed between:

- 26 August – 02 September 2015;
- 29 June – 06 July 2016; and,
- 17 August – 01 September 2016.

and on additional information provided by Nalunaq A/S and GEUS throughout the course of SRK ES’ investigations. SRK ES has no reason to doubt the reliability of the information provided by Nalunaq A/S or GEUS. Other information has been obtained from the public domain. This technical report is based on the following sources of information:

- Discussions with Nalunaq A/S personnel, GEUS and individuals who worked at Nalunaq during previous exploration and mining operations;
- Inspection of the Nalunaq project area, including underground areas and outcrop;
- Review of exploration data collected by previous operators and by SRK ES on behalf of Nalunaq A/S; and,
- Additional information from public domain sources.

## 1.4 Qualifications of SRK ES and SRK ES Team

SRK ES is part of the SRK Group which comprises more than 1,300 professionals, offering expertise in a wide range of resource engineering disciplines. The independence of the SRK Group is ensured by the fact that it holds no equity in any project it investigates and that its ownership rests solely with its staff. These facts permit SRK to provide its clients with conflict-free and objective recommendations. SRK has a proven track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies, and financial institutions worldwide. Through its work with a large number of major international mining companies, as well as junior and mid-tier exploration companies, the SRK Group has established a reputation for providing valuable consultancy services to the global mining industry.

The resource evaluation work and the compilation of this technical report was completed by Fernando Saez, CIP Geol Eng, MAIG (Member of the Australian Institute of Geoscientists) under the supervision of James Gilbertson, CGeol (Chartered Geologist, Geological Society of London, 1013644). By virtue of their education, membership to a recognised professional association and relevant work experience, Mr Fernando and Mr Gilbertson are independent Qualified Persons as this term is defined by National Instrument 43-101.

Additional contributions were provided by:

- Jon Russill, FGS;
- Michael Selby, Peng; and,
- Michael Di Giovinazzo, GradCert.Eng MAusIMM.

All contributors to this report are fulltime employees of the practices within the SRK Consulting Group.

## 1.5 Site Visit

In accordance with National Instrument 43-101 guidelines, James Gilbertson of SRK ES visited the Nalunaq project on 24 August 2015 until 3 September 2015 accompanied by Eldur Olafsson of Nalunaq A/S.

The purpose of the site visit was to review the geological setting and the nature of gold mineralisation in order to understand the geological and structural controls on the distribution of the gold mineralisation in order to aid the construction of three-dimensional gold mineralisation domains. This was also required in order to review the digitalisation of the exploration database and validation procedures, review exploration procedures, define geological modelling procedures, interview project personnel, and collect all relevant information for the preparation of a revised Mineral Resource model and the compilation of a technical report.

Additional site visits were undertaken by SRK ES between 28$^{th}$ June to 6$^{th}$ July and then on the 18$^{th}$ August till the 27$^{th}$ August in order to carry out additional underground geological assessment, further validation work and to assist in the coordination of surface sampling. This also allowed the opportunity to inspect historic drill core from the Nalunaq project that is stored in Narsarsuaq, South Greenland. SRK employees involved with this work included Jon Russill (SRK ES), Michael Selby (SRK Canada) and Michael Di Giovinazzo (SRK Sweden) for the purposes of geological assessment/sampling, mining reviews and geotechnical assessment respectively.

SRK ES has also made numerous visits to GEUS in Copenhagen, Denmark. These visits were to obtain the project database and to conduct interviews with former workers and academic researchers to obtain information on the past exploration work and to understand procedures used to collect, record, store and analyse historical and current exploration data.

SRK ES has been given full access to relevant data by Nalunaq A/S and their associates.

### 1.6 Acknowledgement

SRK ES would like to acknowledge the support and collaboration provided by Nalunaq A/S personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this project. Special mention must go to Kurt Christensen, former Nalunaq Chief Geologist, for his energy, enthusiasm and above all patience in showing us his old mine. The efforts of mountaineers from Hekla Consulting Ltd. must be recognised for their remarkable skill and professionalism in sampling high on the Nalunaq Mountain during the 2015 and 2016 programmes, as must the tireless work performed by Joshua Hughes underground.

### 1.7 Declaration

SRK ES' opinion contained herein and effective as of December 16, 2016, is based on information collected by SRK ES throughout the course of SRK ES' investigations. The information in turn reflects various technical and economic conditions at the time of writing this report. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK ES does not consider them to be material.

SRK ES is not an insider, associate or an affiliate of ARC or Nalunaq A/S, and neither SRK ES nor any affiliate has acted as advisor to ARC, Nalunaq A/S, its subsidiaries or its affiliates in connection with this project. The results of the technical review by SRK ES are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

## 2 RELIANCE ON OTHER EXPERTS

SRK ES has reviewed, summarised and interpreted data, reports and academic literature for the purposes of this report. The main reliance on this third party information has been for the purpose of reporting the sections shown in Table 2-1. References are included in Section 26.

SRK ES has not performed an independent verification of land title and tenure information as summarised in Section 3 of this report. SRK ES did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but has relied on Anita Strauss Sørensen of Nuna Law Firm, Greenland, as expressed in a legal opinion provided to Nalunaq A/S on 24 January 2017. A copy of the title opinions is provided in Appendix B. The reliance applies solely to the legal status of the rights disclosed in Sections 3.1 and 3.2 below.

SRK ES was informed by Nalunaq A/S that there are no known litigations potentially affecting the Nalunaq project.

**Table 2-1 Sources of information**

| Section | Sources of Information |
|---|---|
| 5. History | Exploration, previous Mineral Resource estimates, mining and mineral processing records from Kvaener (2002), SRK (2002), Snowden (Dominy, 2005) and Angel Mining PLC. Exploration database and mine drawings provided by the Geological Survey of Denmark and Greenland ("GEUS") |
| 6. Geological Setting and Mineralisation | Various academic publications and previous company reports sourced from GEUS, and personal communications with former geologists that worked at Nalunaq |
| 7. Deposit Types | Academic publications sourced from GEUS |
| 10. Sample Preparation, Analysis and Security | Summarised from a report by Snowden (Dominy, 2005) |
| 12. Mineral Processing and Metallurgical Testing | Summarised from reports by Kvaener (2002) and SGS (2011) |
| 22. Adjacent Properties | Online records provided by the Mineral Licensing and Safety Authority, Greenland, previous company reports (NunaOil) and online information from Alba Mineral Resources PLC |
| 25. Recommendations | Estimates of underground exploration development and drilling costs provided by Technica Mining |

# 3 PROPERTY DESCRIPTION AND LOCATION

## 3.1 Introduction

The Nalunaq property is located in Southern Greenland at 60º21'N latitude and 44º50'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 (Figure 3-1 and Figure 3-2).

Greenland is an autonomous country within the Danish Realm. It is the largest island in the World with an area of 2,166,086 km$^2$ although it has a small population of just 56,000 people. Most of the island is covered by the Greenland ice sheet, thus the population lives along the coastal fringe which is heavily incised by fjords. Most of the population is located on the west and south coasts and the largest settlement is the capital, Nuuk.

The country is stable with a European-style democracy and maintains strong ties to Denmark. The exploration and mining industry is conducted within a modern mining code (the Mineral Resources Act of 2009) and the Government is supportive of these activities.

## 3.2 Mineral Tenure

The former mine is located in the centre of Exploitation Licence number 2003/05 which covers an area of 22 km$^2$ (Figure 3-3). The licence was granted to Crew Gold Corporation in April 2003 and is valid until April 24, 2033. Angel Mining PLC, through their wholly owned Greenlandic subsidiary Angel Mining Gold A/S, purchased the project from Crew Gold in 2009 and operated, through their wholly owned UK subsidiary, Arctic Mining Ltd until closure of the mine in 2013.

The Management of Angel Mining (Gold) A/S was taken up by FBC after Angel Mining PLC went into Administration, although the exploitation licence remained in force. A decision in early 2015 by FBC Mining (Holdings) Limited and its wholly-owned subsidiary, FBC Nalunaq, to seek corporate partners on the project resulted in ARC becoming the managers of the project following a meeting in June 2015 where approval was given to the Joint Venture by the Greenland Government. A Collaboration Agreement between the parties was signed on 17th July 2015 giving ARC 66.66 % and FBC Nalunaq 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 (Gold) A/S and Nalunaq A/S on 15th 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.

The Exploitation Licence grants Nalunaq A/S the exclusive right to undertake mineral exploration and exploitation within the licence area, subject to approval (see Section 3.4). The boundary coordinates for the Nalunaq exploitation licence are given in Table 3-1.

**Table 3-1 Boundary coordinates for exploitation licence 2003/05 (source: MLSA 2016)**

| Point | Latitude WGS84 | | | Longitude WGS84 | | |
|---|---|---|---|---|---|---|
| | Degrees N | Min | Sec | Degrees W | Min | Sec |
| A | 60 | 23 | 0 | 44 | 53 | 0 |
| B | 60 | 23 | 0 | 44 | 49 | 0 |
| C | 60 | 22 | 0 | 44 | 49 | 0 |
| D | 60 | 22 | 0 | 44 | 48 | 0 |
| E | 60 | 21 | 0 | 44 | 48 | 0 |
| F | 60 | 21 | 0 | 44 | 49 | 0 |
| G | 60 | 20 | 0 | 44 | 49 | 0 |
| H | 60 | 20 | 0 | 44 | 53 | 0 |


**Figure 3-1** **Location of the project area in Greenland with the area shown in Figure 3-2 highlighted by the red box. Map modified from Greenland www.greenmin.gl (Greenmin, 2016)**

*Relevant population centres shown as black circles. Grid lines spaced at 10 degree intervals and north is up.*

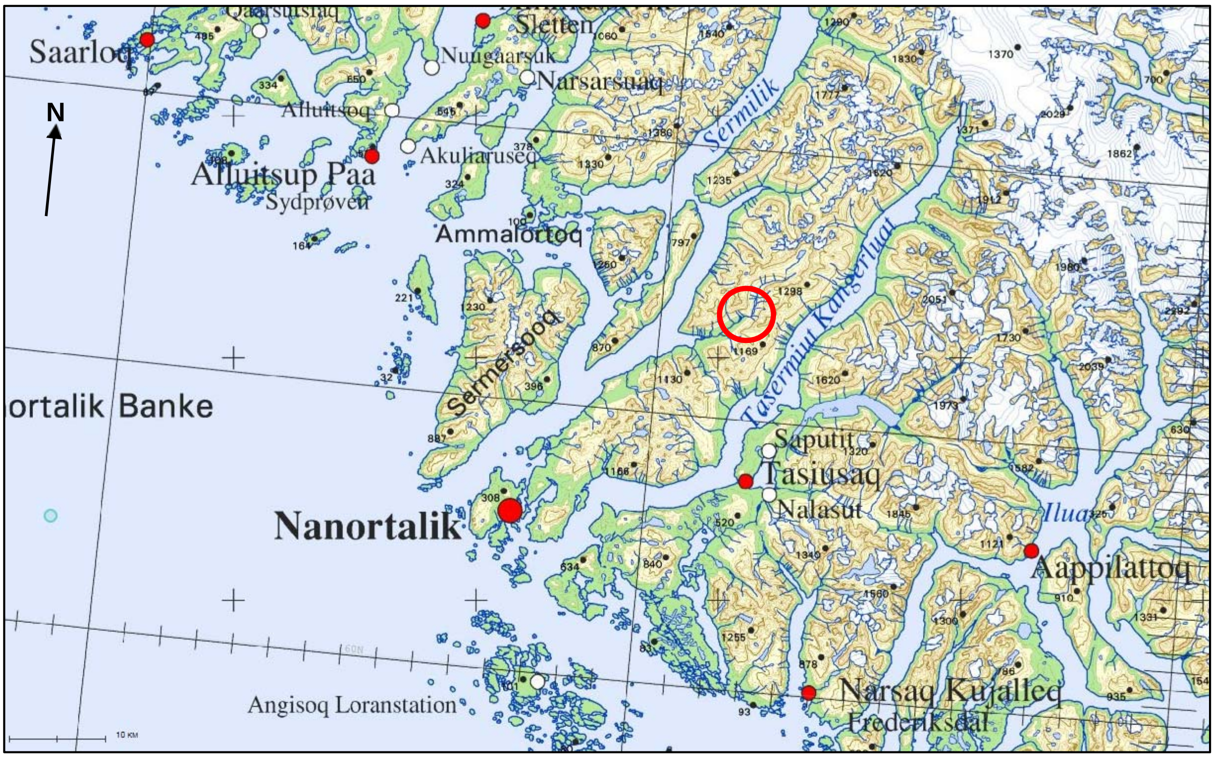


**Figure 3-2** **Location of the Nalunaq gold project (red circle) in South Greenland (map source: www.greenmin.gl [Greenmin, 2016])**

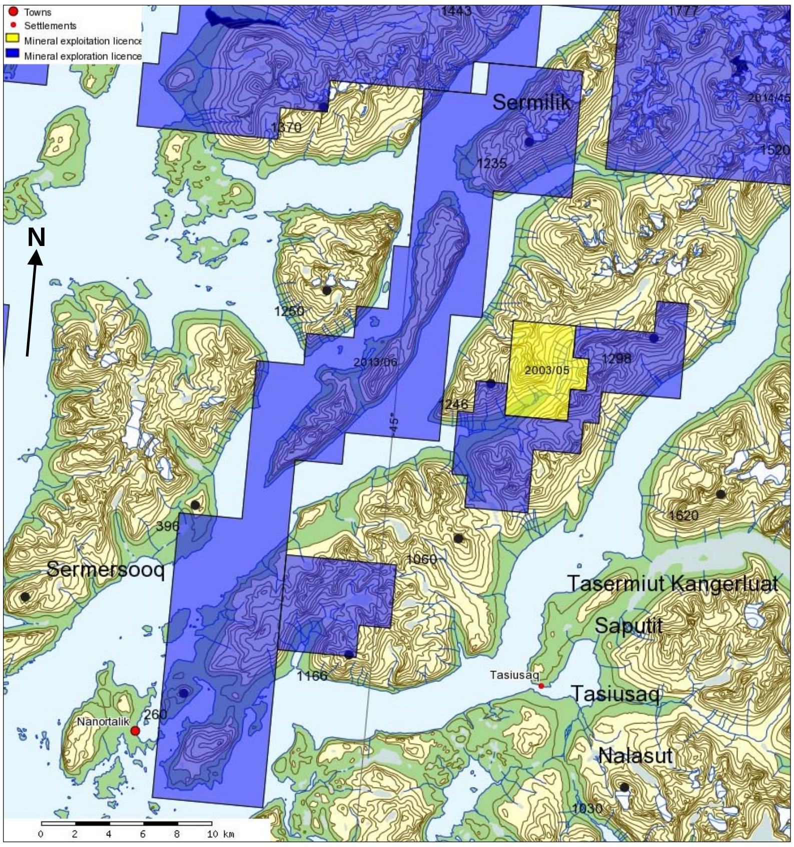


**Figure 3-3** **Location of the Nalunaq exploitation licence 2003/05 (yellow) and neighbouring exploration licences (blue). ) (map source: www.govmin.gl [MLSA 2016])**

*The licence abutting Nalunaq to the east and south is owned by NunaMinerals A/S (licence 2006/10*

## 3.3 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 allows exploration to be conducted for the definition of new Mineral Resources and states that mineral production must commence by 1st January 2021. The Licence Addendum may be found in Appendix B.

The Licence Addendum also defines sub-periods of time in which certain budgeted amounts of exploration expenditure, as provided by Nalunaq A/S to the Government are detailed. These are as follows:

| | | |
|---|---|---|
| Sub period 1: | 1 July 2015 – 31 March 2016 | USD 240,000 |
| Sub period 2: | 1 April 2016 – 31 December 2016 | USD 1,750,000 |
| Sub-period 3: | 1 January 2017 – 31 December 2018 | USD 9,600,000 |

The Government states that failure to meet the terms of the Licence Addendum will result in the licence lapsing and being terminated without further notice.

## 3.4 Permits and Authorisation

All exploration programmes in Greenland, including those at Nalunaq, must be approved by the Mineral Licensing and Safety Authority ("MLSA") in Greenland before they can commence. Work programme application forms must be submitted to the MLSA no later than 1st May in the year that the exploration is planned.

Although an Exploitation Licence remains in force, ARC is required to submit a Bankable Feasibility Study ("BFS") and have this approved by the Government of Greenland before mining operations can commence. The BFS must include an Environmental Impact Assessment ("EIA"), a Social Impact Assessment ("SIA") and an Impact Benefit Agreement ("IBA"), with the scope of these studies being agreed between Nalunaq A/S and the Government.

## 3.5 Environmental Considerations

As far as SRK ES is aware, Nalunaq A/S is not subject to any current environmental liabilities.

Following closure of the mine in 2014, annual environmental monitoring is carried out by Environmental Agency for Mineral Resource Activities ("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 in 2019 will be returned to Nalunaq A/S.

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.

## 3.6 Mining Rights in Greenland

### 3.6.1 Legal Foundation

The Greenland Parliament Act No. 7 of 7th December 2009 on Mineral Resources and Mineral Resource activities (the Mineral Resources Act), came into force on 1st January 2010. Amendments were made to the Act in 2012 and 2014.

The Act is intended as a framework that lays down the main principles for the administration of mineral resource activities and authorises the Greenland Government to lay down provisions in executive orders and standard licence terms as well as specific licence terms. The Act aims to ensure that activities under the Act are properly performed as regards safety, health, the environment, resource exploitation and social sustainability as well as properly performed according to acknowledged best international practices under similar conditions.

### 3.6.2 Types of Mineral Licences

***Prospecting Licences***

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.

***Exploration Licences***

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 $km^2$ 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 apply for 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 two year periods for the same area up to a maximum of 16 years (years 11-12, 13-14 and 15-16).

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 expenditure per licence per year. This amount is defined by the Government and is the same for all exploration licences, and it also increases with the age of the licence.

***Exploitation Licences***

An Exploitation Licence may be granted to an Exploration Licence holder who has discovered and delineated commercially exploitable Mineral Resources and whose Bankable Feasibility Study (which must include a declaration of Mineral Reserves) has been approved by the Government.

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 may be granted for up to two years at a time, and renewed approval may be granted on modified terms. If temporary suspension has lasted six years, the Government may order the licensee to implement the closure plan.

### 3.6.3 Administrative Authorities

The administrative authorities within the Government of Greenland that 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 Mineral Resources (“MMR”)***

The MMR is responsible for strategy-making, policy-making, legal issues and marketing of mineral resources in Greenland. The Ministry deals with geological issues through the Department of Geology.

***The Ministry of Industry, Labour and Trade ("MILT")***

The MILT is the authority for issues concerning industry and labour policy including SIAs and IBAs for mineral resources and similar related socio-economic issues.

***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.

# 4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

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.

The mine site is located 6 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 unseaeled but in reasonable condition. The 4x4 vehicle can be mobilised to the area by landing craft.

The climate of South Greenland is relatively mild for the latitude. In Nanortalik, the temperature ranges between averages of -5°C in January and 7°C in August. Temperatures below 0°C occur between November and March. Rainfall is moderate and fairly consistent at around 8-10 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.

Qaqortoq is the largest town in South Greenland with a population of about 3,200. This is 77 km northwest of Nalunaq. The closest population centre to Nalunaq is Nanortalik, 33 km to the southwest. This has a population of about 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 still in Nanortalik who worked in the mine when it was operational, and the town remains a good source of local workers.

The topography in the area is rugged to alpine. Mountains reach from sea level to elevations of 1,500 m ASL. Many of them are glaciated and the southern tip of the permanent ice sheet is about 33 km to the northeast of the 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 4-1 to Figure 4-4.

Further details of existing surface and underground infrastructure are provided in Section 17.

**Figure 4-1 View towards the northeast from close to the harbour (source: SRK ES 2016)**

*Nalunaq Mountain is on the left, slightly obscured by cloud, about 7 km from the photograph location*

**Figure 4-2 Aerial view north-eastwards up the Kirkespirdalen Valley with Nalunaq Mountain arrowed (source: SRK ES 2016)**

*The jetty can be seen at bottom left and the mine access road can be seen paralleling the river*

**Figure 4-3 View of the north-eastern and northern sides of Nalunaq Mountain (source: SRK ES 2016)**

*Tracks leading to mine portals seen at bottom left. The 600 Level Portal is at the top of the grey waste rock deposits to the left of centre*

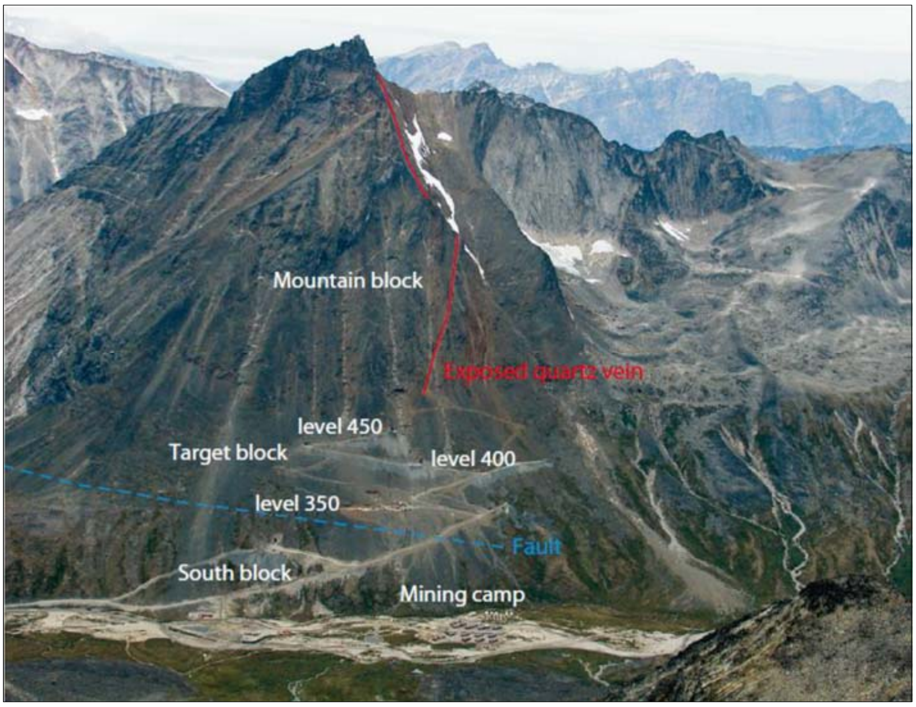


**Figure 4-4 View of the eastern side of Nalunaq Mountain showing access tracks, the mine camp (now removed) and the Main Vein exposure (source: Secher et al., 2008)**

# 5 HISTORY

## 5.1 Introduction

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 also aware of gold here. 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. Further exploration confirmed the presence of a coherent mineralised structure hosting high grade, sometimes bonanza grade, gold. Visible gold, sometimes abundant, is common (for example up to up to 5,240 g/t Au over 0.8 m in an exploration channel sample). A mining licence (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 Mining Limited 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 17th July 2015, and the licence is now held in the name of the Greenlandic joint venture company, Nalunaq A/S.

## 5.2 Exploration History

Regional geological mapping in the area had been carried out in the 1960s by the Geological Survey of Greenland ("GGU", later "GEUS") and provide a foundation for mineral exploration. In the late 1980s, the exploration company Carl Nielsen A/S found small flakes of gold in alluvial gravels where the Kirkespirdalen valley meets the coast. Nunaoil A/S were granted an exploration licence for the area that includes Nalunaq in 1990, on the assumption that alluvial gold at the coast must be derived from primary mineralisation in the mountains around the Kirkespirdalen valley. This was supported by geochemical sampling of stream sediments and scree sediments which showed gold anomalies five to ten times higher than other areas in the region (Gowen et al., 1993). In 1992, further exploration led to the discovery of visible gold in a quartz vein of 0.5 – 2 m in thickness, outcropping at about 400 m above sea-level on the eastern flanks of the Nalunaq Mountain (Figure 5-1) and traceable for 800 m up the mountain. This became known as the Main Vein.

**Figure 5-1 The "discovery outcrop" of the Main Vein close to the 400 Level Portal (source: SRK ES 2016)**

Exploration intensified after this discovery. In 1993, a NunaOil and Cyprus Greenland Corporation joint venture undertook surface mapping and a 13 hole NQ diamond drilling programme for a total of 2,950 m of drilling in order to test the continuity of the Main Vein. Cyprus withdrew later that year, but Nunaoil continued mapping, sampling and drilling during 1994-1996, including 8 NQ diamond drill holes (848 m). This lead to the discovery of a new quartz vein in the hangingwall and a section of the Main Vein low on the mountain that was vertically displaced from the rest of the vein. This was termed the South Block. NunaOil entered a new joint venture with Mindex A/S in 1997 and undertook mapping, sampling and metallurgical 'bulk' sampling of the Main Vein and Hanging Wall Vein from surface pits.

1998 saw the start of a major exploration effort when 5,134 m of drilling was completed from 37 surface NQ holes, and a 288 m long exploration drive was driven at 400 m above sea level. Two raises were developed from this drive to test grade continuity and variability of the Main Vein.

1999 saw a further 19 diamond holes drilled (2,520 m) for resource expansion and underground development planning. Channel sampling was also undertaken at 1 m intervals on the exposed Main Vein between elevations of 468 m to 775 m. Mindex A/S merged with Crew Development Corporation that year, with Crew becoming the operator of the Nalunaq project.

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).

As is usually required with mineralisation of this type, an underground development programme was started in 2000 with the aim of determining grade and geological continuity of the Main Vein. This was carried out by Strathcona Mineral Services (Strathcona, 2000; 2001; 2002b) and comprised a bulk sampling programme. This required development of the 350 and 450 Levels and extension of the 400 Level, from which the Main Vein was blocked out at approximately 80 m intervals by linking the levels with a series of raises (Figure 5-2). In total, 1,902 m of lateral development was carried out, including 893 m of driving and 538 m of raising. 341 bulk samples totalling 21,300 tonnes were collected and analysed. This activity included the use of a pilot plant on site (Lind et al. 2001).

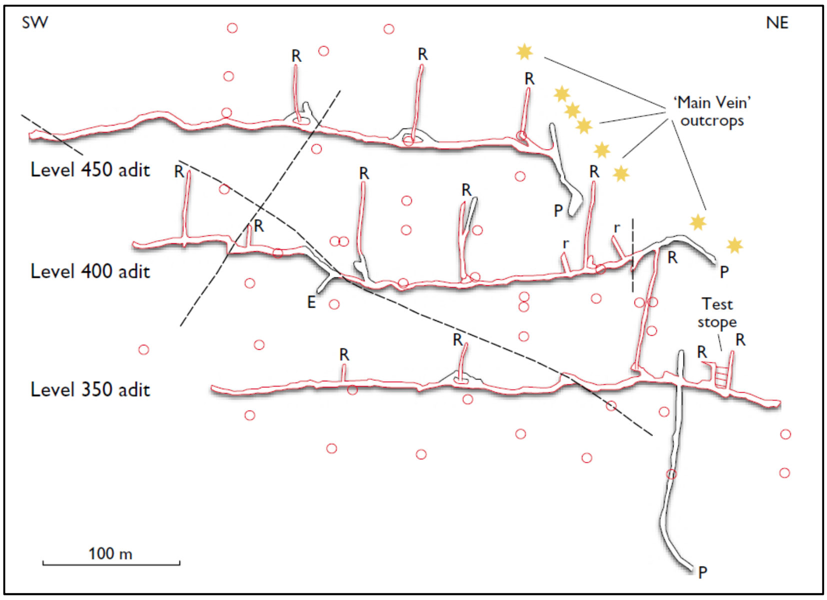


**Figure 5-2 Longitudinal section drawn in the plane of the Main Vein ("MV"), dipping at about 36° SE, showing the first exploration adits and raises (from Lind et al, 2001)**

*Black lines indicate development in waste to access the MV, red lines indicate development in ore. Dashed lines show minor dextral faults with metre-scale offsets, and red circles indicate MV intersections from surface drilling*

Diamond drilling and underground development continued in 2001 for a total of 2,478 m (13 holes) and 1,500 m respectively.

In 2002, Kvaener completed a Feasibility Study for mining operations at Nalunaq. This was based on Mineral Resources as described in Section 5.3 and presented a number of operational scenarios, with the best economic case including no mineral processing on site, but shipping ore elsewhere to an existing processing plant.

Surface drilling continued after mining operations commenced in 2004. Between 2004 and 2006, 83 surface holes were drilled for a total of 13,404 m, mainly in the Mountain and South Blocks. This brought the total amount of surface drilling at Nalunaq between 1993 and 2006 to 172 drillholes for 30,478 m.

Underground development and exploration drilling was also carried out between 2004 and 2008. The total amount completed was 237 drillholes for 5,572 m.

Underground continuous chip sampling was undertaken throughout the exploration and mine development; there are 2,041 samples with gold assays that were taken in exploration adits and raises, and 5,478 samples from development workings.

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 5-1. The distribution of historical surface sampling and diamond drilling is shown in Figure 5-3.

**Table 5-1 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 |
| **Total samples** | **15,968** |

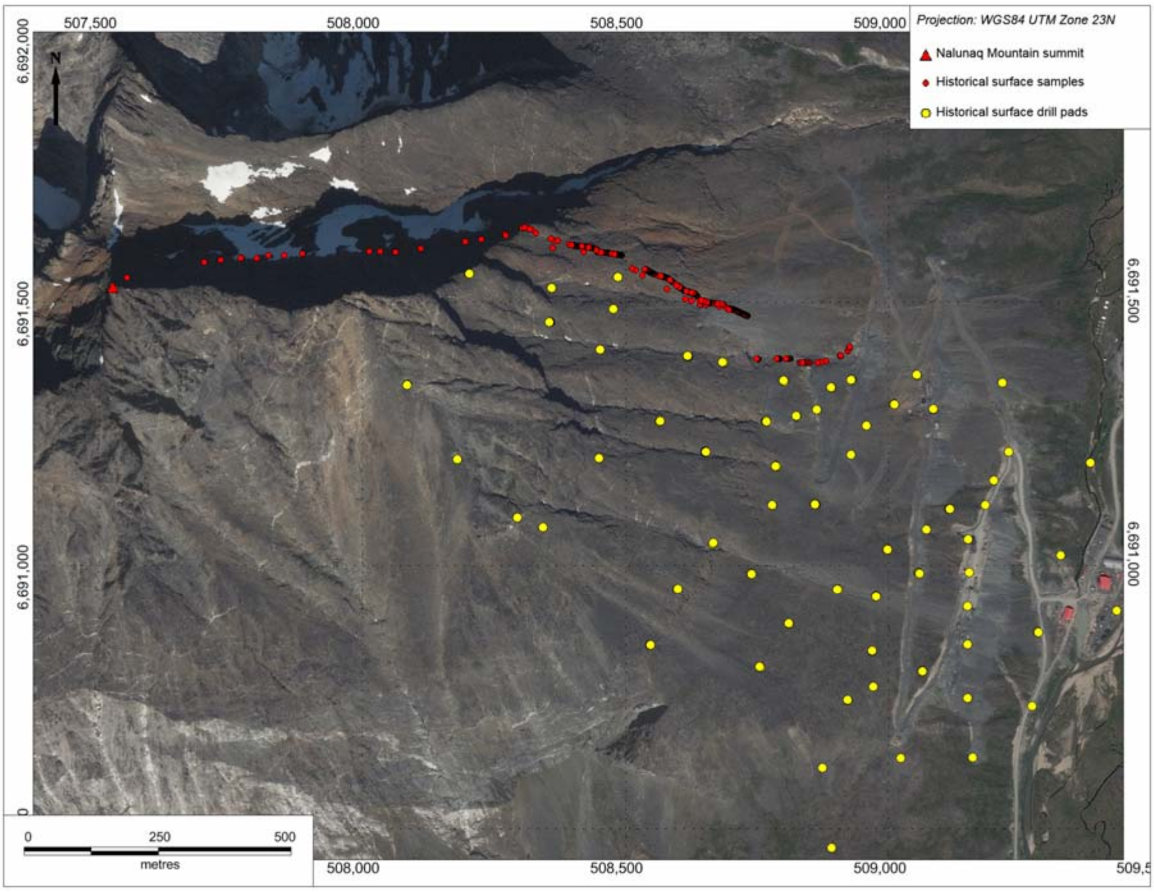


**Figure 5-3** **Locations of historical surface exploration sampling and surface diamond drilling pads**

## 5.3 Historical Mineral Resource Estimates

### 5.3.1 Introduction

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.

### 5.3.2 Pre-Mining Mineral Resource Estimates

An independent Mineral Resource Estimate ("MRE") was produced by SRK Consulting (Toronto) in 2002 using three-dimensional computer block modelling and geostatistical kriging methods using Gemcom software (SRK, 2002). This was based on data provided by databases provided by the joint venture company (Nalunaq A/S) and prepared in accordance with the CIM Code (2000) and the guidelines of National Instrument 43-101: Standards of Disclosure for Mineral Projects. It was used as the basis for Kvaener's 2002 Feasibility Study.

Although exploration data included surface sampling from 400 masl to 1,250 masl, the 2002 MRE only related to the developed portion of the Main Vein in the Target Block between 300 masl and 500 masl. However, the potential for additional resources beyond this target area was recognised. Table 5-2 provides a summary of the 2002 MRE.

Later in 2002, SRK updated the MRE to include samples from a further 800 m of underground development, using the same estimation method. This added ounces to the Target and South Blocks and converted some Inferred Mineral Resources to Indicated/Measured. The updated resource estimate is summarised in Table 5-3, reported at a 1.5 m minimum stoping width.

**Table 5-2 Summary of the SRK 2002 Mineral Resource Estimate, reported at a zero cut-off grade and at various minimum stoping widths (from Kvaener, 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** (including stockpiles) | 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 | 30.0 | 483,900 | 25.5 | 596,600 | 20.6 | 396,600 |

| 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 |

**Table 5-3 Summary of the updated Mineral Resource Estimate produced by SRK in 2002 reported at a 1.5 m minimum stoping width and a zero cut-off grade (SRK, 2002; table taken from Snowden, 2005).**

| Resource Category | Tonnage (t) | Grade (g/t gold) | Ounces gold |
|---|---|---|---|
| **Main Vein Resource** | | | |
| **Measured** | 245,000 | 19 | 150,000 |
| **Indicated** | 210,000 | 21 | 142,000 |
| **Inferred** | 260,000 | 18 | 150,000 |
| **South Vein Resource** | | | |
| **Measured** | 56,000 | 12 | 21,600 |
| **Indicated** | 120,000 | 12 | 46,300 |
| **Inferred** | 95,000 | 11 | 33,600 |

In addition to the MRE for areas that were subject to underground exploration development, SRK (2002) also defined Inferred Resources for the Upper and Mountain Blocks based on diamond drilling and surface sampling (Table 5-4). These were reported at a minimum stoping width of 1.5 m and a zero cut-off grade and used the 2000 CIM Reporting Code.

**Table 5-4 Mineral Resource Estimate for the Upper and Mountain Blocks (SRK, 2002a; table taken from Snowden, 2005)**

| Inferred Mineral Resources | Tonnage (t) | Grade (g/t gold) | Ounces gold |
|---|---|---|---|
| **Upper Block** | 125,000 | 11.5 | 46,200 |
| **Indicated** | 201,000 | 18.7 | 121,000 |

### 5.3.3 Mineral Resource Estimates During Mining Operations

Following the start of mining in 2004, Mineral Resources were updated by Snowdon in 2005 (Snowden, 2005, 2005a). Resources were estimated using a kriged block model in Datamine software and reported in accordance with the 2004 CIM Code. In contrast to the SRK resource estimate, which defined Measured Resources to all blocks that were within 10 m of development, Snowden assigned developed parts of the Target Block to the Indicated category. This reflected Snowden's belief that the required level of confidence for Measured Resources was not present, even proximal to underground development. Furthermore, even with mining underway, grade continuity was not being proved.

Table 5-6 shows the mineral inventory remaining in the Target Block as of September 2005, having accounted for depletion through mining.

**Table 5-5 Target Block Mineral Resources diluted to 1.4 m and at a zero cut-off grade (Snowden, 2005a)**

| Block | Inferred Mineral Resources | All tonnes in resource[1] | Stope tonnes | Pillar tonnes (in-situ) | Pillar tonnes (planned) | Grade g/t gold | Ounces gold |
|---|---|---|---|---|---|---|---|
| **Target** | **Indicated** | 381,000 | 329,000 | 14,000 | 38,000 | 21 | 257,000 |
| | **Inferred** | 270,000 | 243,000 | None | 27,000 | 16 | 139,000 |
| **South Central** | **Indicated** | 57,000 | 51,000 | None | 6,000 | 19 | 35,000 |
| | **Inferred** | 80,000 | 72,000 | None | 8,000 | 17 | 44,000 |

[1] *Depleted by 145,000 tonnes from production*

Snowden (2005) also provided an estimate for Inferred Resources for other blocks based on diamond drilling and surface sampling (Table 5-6). A 'payability factor' was applied to the tonnage estimates to provide a payable tonnes value. This was to account for likely resource upgrading and associated uncertainly, and is commonly used in the resource estimation of high nugget effect deposits. An average factor of 45% was used, based on the relative proportion of high grade mineralised zones believed to pass through each block.

**Table 5-6 South, Target North, Upper and Mountain Blocks Inferred Mineral Resources (Snowden, 2005a)**

| Block | Tonnage[1] | Grade[2] g/t gold | Ounces gold |
|---|---:|---:|---:|
| **South** | 520,000 | 18 (16-21) | 301,000 |
| **Target North** | 290,000 | 18 (16-21) | 168,000 |
| **Upper** | 320,000 | 18 (16-21) | 185,000 |
| **Mountain** | 190,000 | 18 (16-21) | 110,000 |
| **Global** | 1,320,000 | 18 (16-21) | 765,000 |

[1] *Payable tonnage factored*

[2] *Global best estimate grade within a grade range*

The final resource and reserve statement was produced internally by Arctic Mining, the subsidiary of Angel Mining PLC that operated the mine at the end of 2013 after the decision to close the mine had been taken. These are summarised in Table 5-7 as reported by Graham (2014), and the resource and reserves areas are shown in Figure 5-4 and Figure 5-5. SRK ES does not consider these statements to be compliant to international reporting codes.

Inferred Resources were defined as those parts of the Mineral Resources that could be demonstrated to provide reasonable evidence for structural continuity, on the basis of surface drilling, but where the widely spaced sampling could not provide reliable data for grade estimation. Indicated Resources were declared in areas where underground development and sampling had taken place along the mineralised structure or in areas of continuous surface sampling. It appears that Indicated Resources were also assigned to blocks where at least one third of drillholes intersecting the block included intersections exceeding 6 g/t gold. Mineable reserves were declared only in areas where the Main Vein had been fully exposed and developed by strike drives and slot raises, and where the drifts have been systematically sampled and assayed. In the areas where the structure was well-defined, the reserve blocks are extended two levels (c. 20 m vertically) away from the last mine opening.

As far as SRK ES is aware, no geostatistical analysis was used for resource estimation; the estimation process involved the simple extrapolation of grade across polygonal blocks and the dilution of grade to a 1.5 m stoping thickness. SRK ES does not consider this to be an appropriate method for this style of mineralisation nor does it meet industry standards for the disclosure of Mineral Resources.

**Table 5-7 Resource and Reserve statement compiled at the end of mining operations in December 2013 (Graham, 2014)**

| Nalunaq Resources 31/12/2013 | Tonnes | Grade, g/t gold | Contained gold, oz |
|---|---|---|---|
| Total Inferred | 250,000 | 15.2 | 120,000 |
| Total Indicated and Measured | 45,000 | 13.8 | 19,000 |
| Resources in Pillars | 11,000 | 19.0 | 6,700 |
| **Nalunaq Ore Reserves 31/12/2013** | | | |
| Total Reserves (all blocks and stopes) | 25,500 | 19.8 | 16,000 |
| Total Reserves | 28,000 | 18.7 | 16,800 |

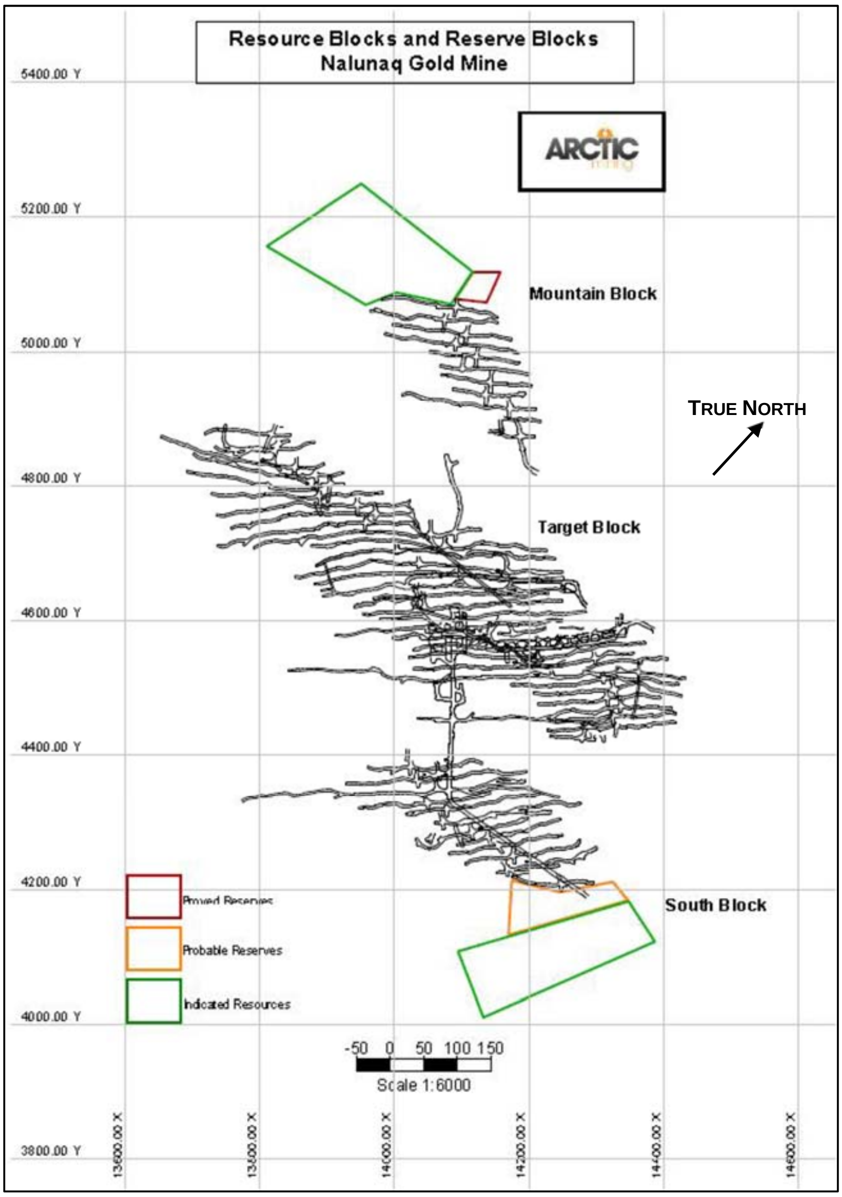


**Figure 5-4 Nalunaq mine plan showing the locations of (non-compliant) Indicated Resource blocks and Reserves. Map from Graham (2014)**

*Note that coordinates are in the historical mine grid. True north indicated by arrow.*

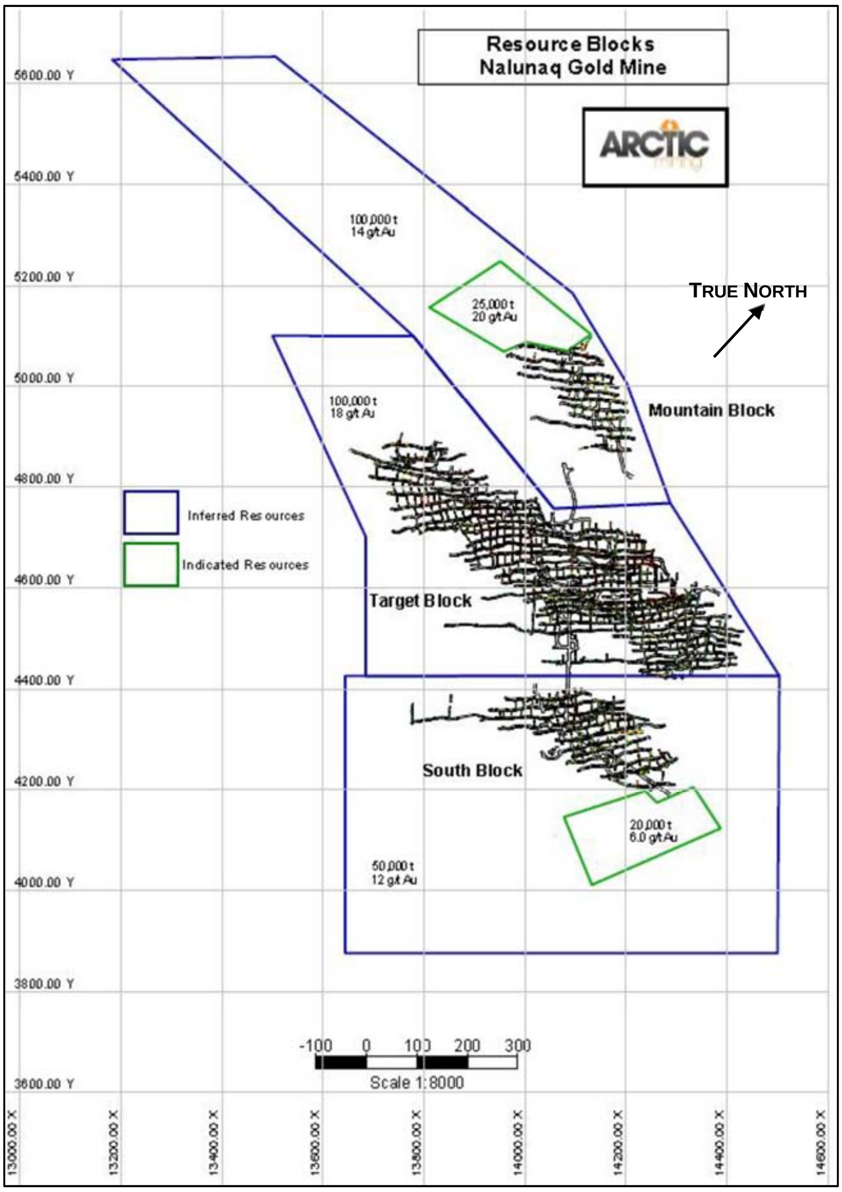


**Figure 5-5 Nalunaq mine plan showing the locations of (non-compliant) Inferred and Indicated Resource blocks. Map from Graham (2014)**

*Note that coordinates are in the historical mine grid. True north indicated by arrow.*

## 5.4 Exploitation History

### 5.4.1 Crew Gold Corporation

The Greenlandic and Danish Governments granted the Nalunaq Exploitation Licence to Crew Gold Corporation ("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. From early 2004 until late 2006, broken ore was shipped to a processing facility in Spain, and from then until they ended operations in 2009 it was shipped to Crew Gold's Nugget Pond processing plant in Newfoundland.

In total, between the two processing plants, 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.

**Table 5-8 Data for ore shipments and gold production from the Nalunaq Gold Mine from 2004 to 2009**

| Year | Processing Location | Tonnage shipped | Average Grade, g/t | Contained Gold (est.), oz | Tonnage Milled | Recovered Gold, oz. |
|---|---|---|---|---|---|---|
| 2004 | Spain | 97,300 | 20.6 | 71,468 | 94,144 | 56,817 |
| 2005 | | 114,106 | 20.4 | 76,542 | 113,921 | 66,769 |
| 2006 | | 107,557 | 16.5 | 62,716 | 107,600 | 67,937 |
| | ***Sub-totals*** | ***318,963*** | | ***210,727*** | ***315,665*** | ***191,523*** |
| 2007 | Nugget Pond | 155,341 | 15.4 | 84,471 | 132,768 | 70,996 |
| 2008 | | 135,308 | 11.2 | 53,801 | 140,870 | 59,046 |
| 2009* | | 50,227 | 11.3 | 19,996 | 65,452 | 30,742 |
| | ***Sub-totals*** | ***340,876*** | | ***158,268*** | ***339,090*** | ***160,784*** |
| | **Total** | **659,839** | | **368,995** | **654,755** | **352,307** |

* 2009 *was a short year up to the end of operations. The last shipment was in March 2009.*

The ore shipments to Spain can be correlated to the throughput at the mill. There are however differences in both the tonnage milled compared to the tonnage shipped, suggesting that there were inaccuracies in weighing ore either at the mine or at the processing plant. The amount of gold recovered is also substantially different to the estimated contained gold in the ore shipments. This is most likely due to over-estimation of grade in the mine, gold losses in the mine, underestimation of the amount of dilution, or ore being lost during transport.

These differences are less marked for the period that ore was processed at Nugget Pond, but it is more difficult to correlate ore shipments against milling. As demonstrated in the differences between the annual ore shipped and the annual ore milled, the processing facility must have been stockpiling ore and processing it in subsequent years. Overall, the data suggest that some problems with the mine call may have been addressed.

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 PLC) 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 (Gold) A/S (“Angel Mining”) in September 2009. A subsidiary of Angel Mining, Arctic Mining Ltd., carried out all mining operations and installed an underground processing plant in the mine at the 300 Level. This plant required an investment of US$ 35 million and comprised a mill and a carbon-in-pulp cyanide leaching circuit ("CIP") which fed into a furnace that produced doré bars. The plant was designed for a head grade of 13.5 g/t gold.

The first pour was carried out in late May 2011, with an optimum production target of approximately 24,000 oz gold per annum, but this target was never reached. A number of problems disrupted early production and the challenging logistics of operating at the site were highlighted. Early in 2012 two significant production delays occurred. The first was that incorrect parts were sent for a critical pump causing plant downtime of two weeks while they waited for the correct parts. The second delay was on 5 March 2012 when the main generator failed and the back-up generator was not of sufficient capacity to power the crushing circuit. It took six weeks to repair the generator, during which time no ore could be crushed.

Gold production figures are shown in Table 5-9. The average monthly production by Angel Mining from June 2011 to July 2013 was approximately 600 oz gold, well short of their target optimum production rate of 2,000 oz gold per month. The Angel Mining production rates are also low compared to the average of 5,544 oz gold per month produced by the Nugget Pond processing plant, when averaged over the 29 months of operation at this plant.

**Table 5-9 Angel Mining Nalunaq Gold Mine Monthly Doré Production Figures 2011-2013**

| Period | | Gold produced (kg) | Gold produced (oz) |
|---|---|---|---|
| **2011** | May 2011 first gold pour | 0.93 | 30 |
| | June | 1.26 | 41 |
| | July | 5.97 | 192 |
| | August | 12.25 | 394 |
| | September | 21.80 | 701 |
| | October | 10.40 | 335 |
| | November | 21.60 | 693 |
| | December | 29.20 | 940 |
| | ***2011 TOTAL*** | ***103.41*** | ***3,326*** |
| **2012** | January | 32.40 | 1,042 |
| | February | 17.00 | 545 |
| | March | 15.00 | 481 |
| | April | - | - |
| | May | 40.70 | 1,309 |
| | June | 27.50 | 883 |
| | July | 29.30 | 941 |
| | August | 8.31 | 240 |
| | September | 8.87 | 256 |
| | November | 19.25 | 557 |
| | December | 20.77 | 601 |
| | ***2012 TOTAL*** | ***219.10*** | ***6,855*** |
| **2013** | January | 5.04 | 162 |
| | February | 25.01 | 804 |
| | March | 21.06 | 677 |
| | April | 24.42 | 785 |
| | May | 29.64 | 953 |
| | June | 23.05 | 741 |
| | July | 16.17 | 520 |
| | ***2013 TOTAL*** | ***144.38*** | ***4,642*** |
| **TOTAL FOR ALL YEARS** | | **466.89** | **14,823** |

Due to financial difficulties and an inability to repay loans, 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 and run of mine material was predominantly sourced from pillar mining with minor additional ore from level ramping. Development continued and in February 2013 exploration was being carried out at the 720 MB Level, consisting of raises and an adit towards the west at the 740 MB Level. The Main Vein was followed for 12 m to the west where it stopped, mirroring the structure observed in the 720 MB level. It is known that in August 2013, pillar mining and level ramping on the 470 MB Level and 730 MB Level respectively produced a total of 2,990 tonnes of ore.

Minor problems continued with the processing plant. During February 2013, for example, 2,917 tonnes of ore were milled at an average head grade of 18.5 g/t gold. However, during this period the grade of the tailings averaged 3.3 g/t with tailings samples ranging from 0.9 g/t to 34.0 g/t gold. These high grades indicate a significant loss of gold due to a combination of factors. These included the fact that the plant was receiving material that graded above its designed head grade of 13.5 g/t gold, meaning that a proportion of the gold was not being recovered from the leachate. Secondly, that an incorrect order of fine-grained carbon had been placed, meaning that, when introduced into the plant, it was not recovered during screening causing carbon combined with gold to be lost to the tailings.

Arctic Mining expected that doré produced at Nalunaq in 2013 would contain 90% gold and 8% silver for planning purposes. In 2013, actual doré assay results returned gold and silver contents of 85.5% and 11.6% respectively in January 2013, and 93.2% and 6.4% respectively in July 2013.

In total, 102 staff were employed at Nalunaq Mine in February 2013. This number declined to 60 staff members by October 2013 with a combined wage bill of US$ 395,000 per month. Of the 60 staff, 14 were based in the camp or office, 11 in the engineering department, 16 in mining and 19 in the processing departments.

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) was removed or destroyed. The underground processing plant was left in place, and the mine portals were closed with waste rock.

Figure 5-6 shows the final extent of the mine at the time of closure and the locations of mine portals.

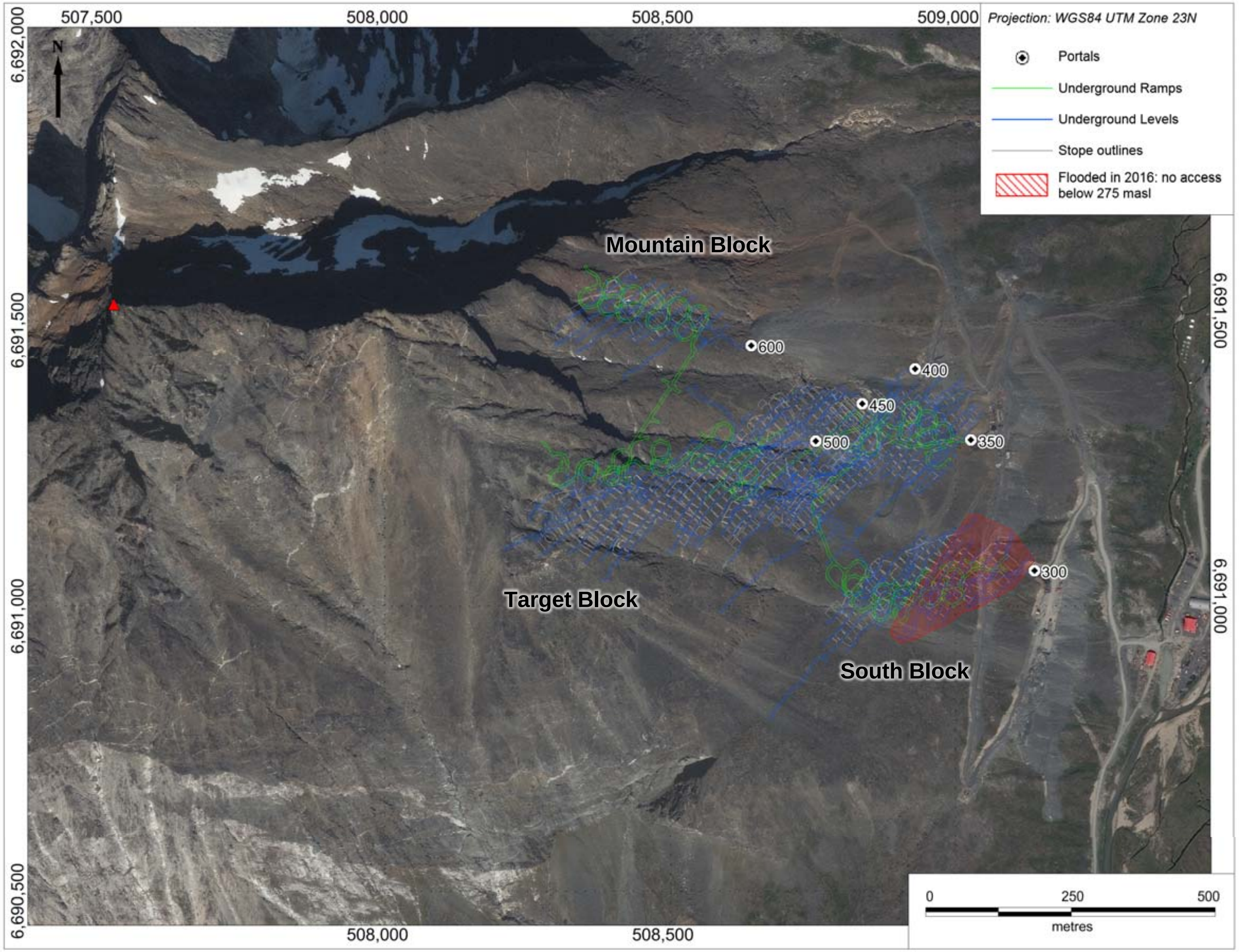


**Figure 5-6** **The final extent of the mine superimposed onto satellite imagery of the area and the former mine camp on the right (source: SRK ES 2016)**

# 6 GEOLOGICAL SETTING AND MINERALISATION

## 6.1 Regional Geology

Nalunaq lies within the wider Psammite Zone in Southern Greenland that hosts the Nanortalik Gold Belt (Hughes et al., 2013). This zone is part of the Ketilidian Mobile Belt which evolved between 1,850 Ma to 1,725 Ma during supposedly 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 6-1). 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 6-2).

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 at all. Known gold occurrences are shown in Figure 6-2, whilst stream sediment and heavy mineral geochemical data shows numerous anomalies for gold and gold pathfinder elements, indicating further unexplored potential in the area (Figure 6-3).

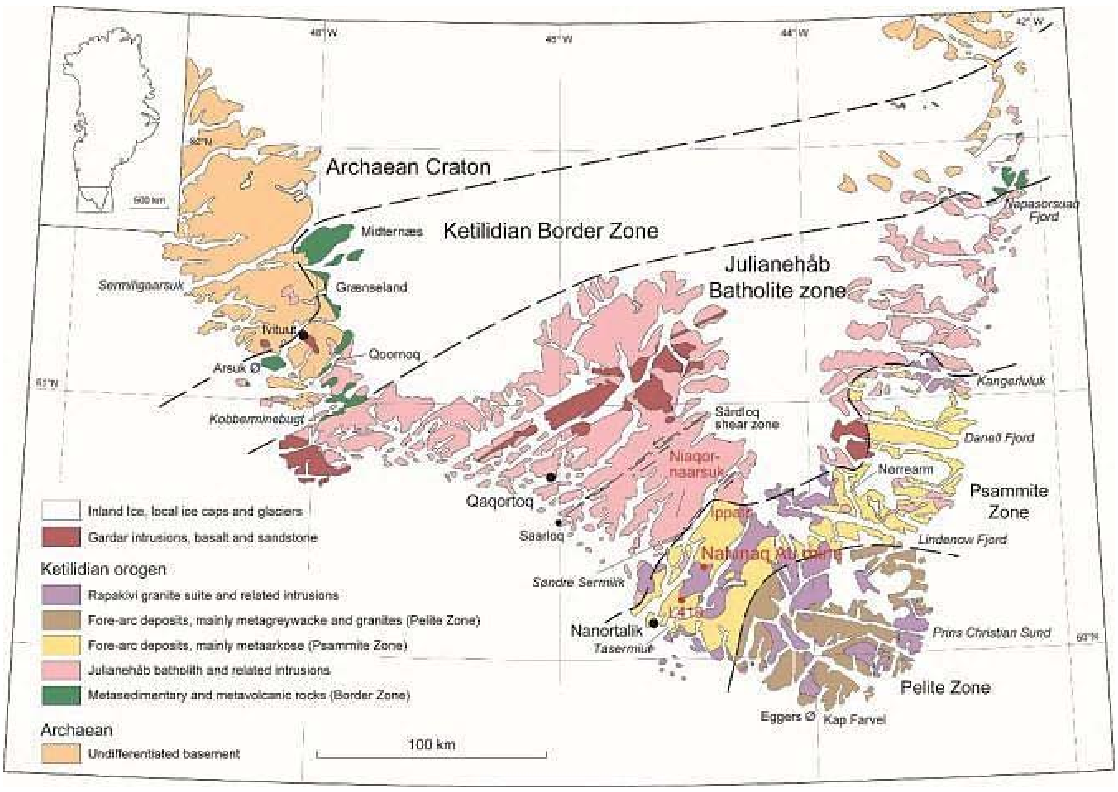


**Figure 6-1** **Summary geological map of South Greenland showing the principal geological domains (source: Secher et al., 2008)**

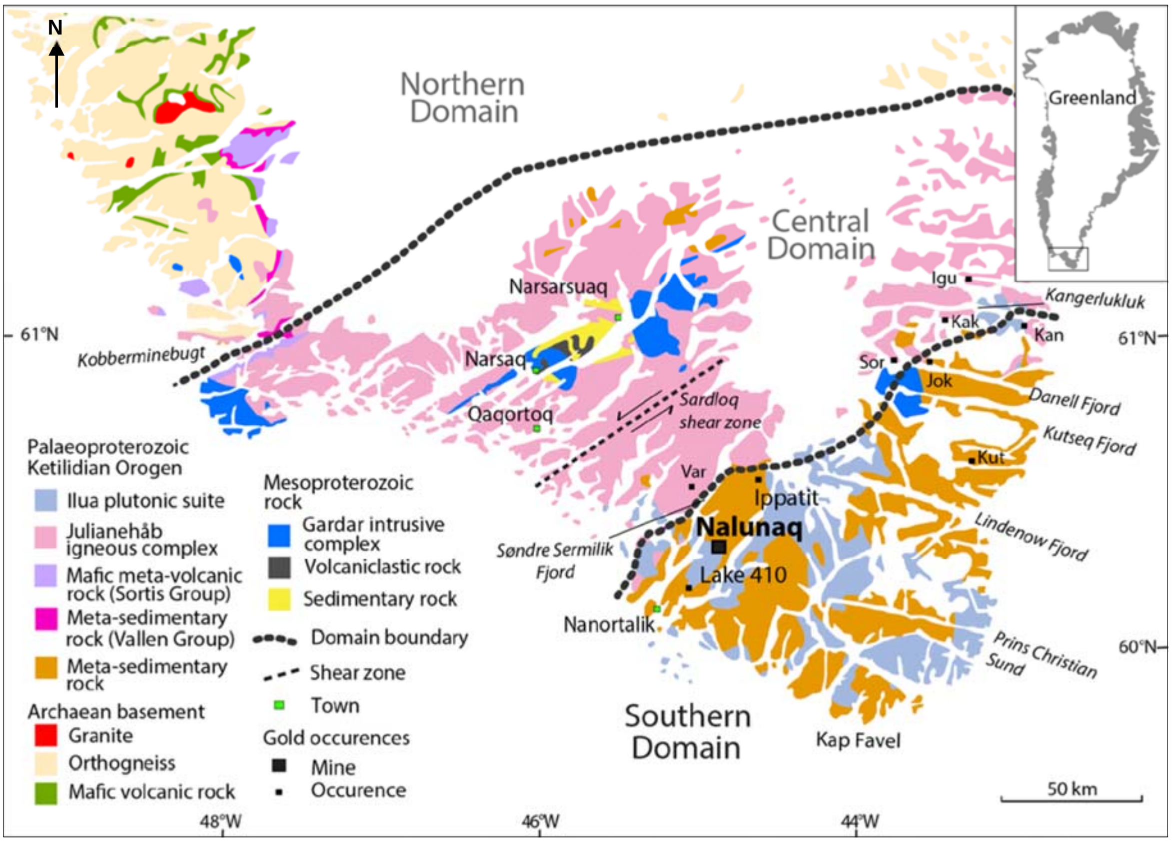


**Figure 6-2 Simplified geological map of South Greenland, highlighting the major tectonic divisions of the Ketilidian Orogen and noting gold occurrences (map taken from Bell (2016)**

*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 Steenfelt et al. (2016))*

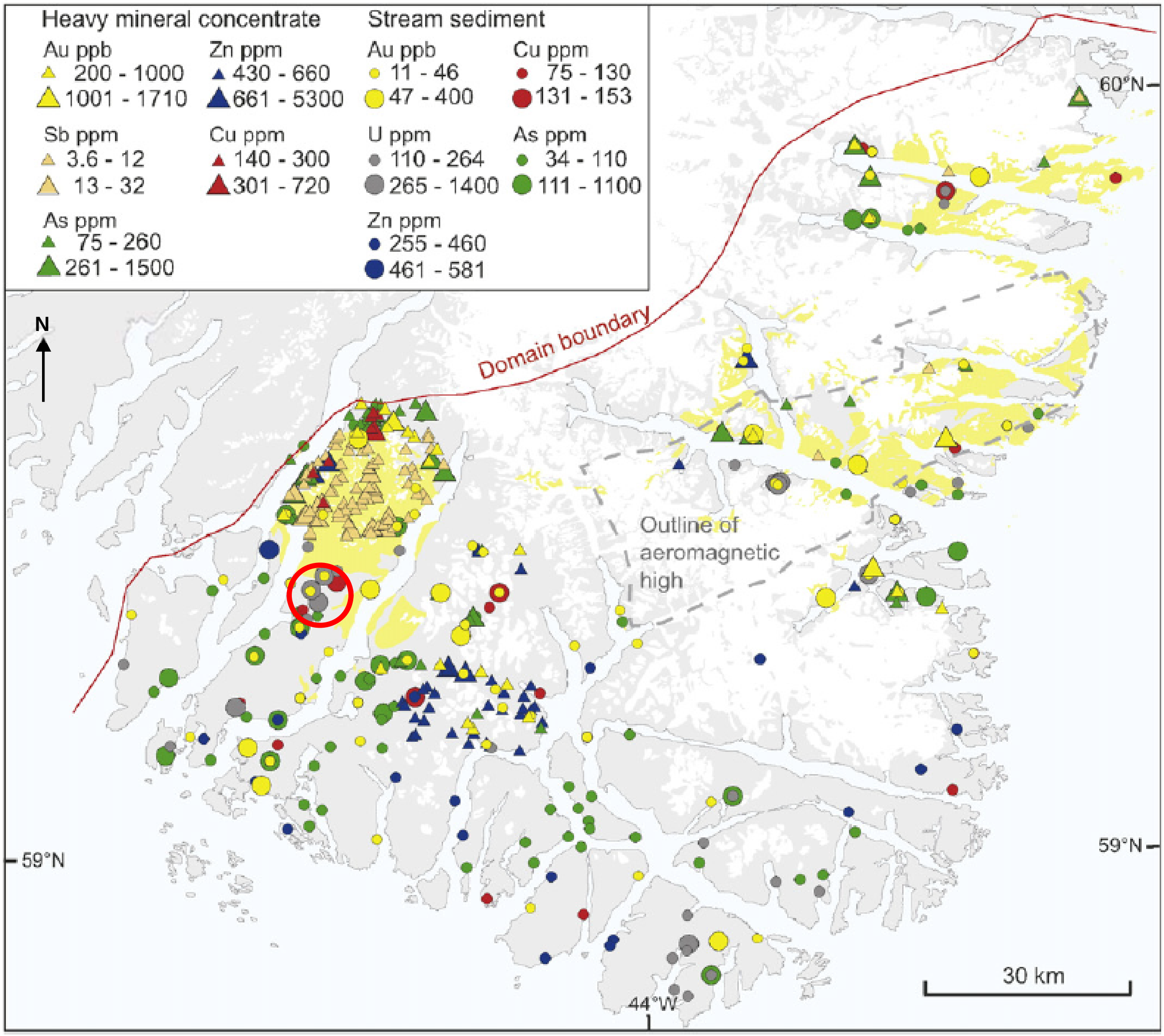


**Figure 6-3 Stream sediment (<0.1 mm fraction) and heavy mineral concentrate anomalies in South Greenland. Nalunaq is indicated by the red circle (map from Steenfelt et al., 2016)**

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

## 6.2 Local 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. This package is part of the Nanortalik Nappe and has been thrust over metasediments and the sequence is intruded by later granites and several generations of late aplite and pegmatite dykes. Figure 6-4 shows the geology of the Kirkespir Valley including Nalunaq, and Figure 6-5 shows simplified stratigraphic columns for various locations in the area, highlighting the base of the Nanortalik Nappe (both figures from Bell, 2016).

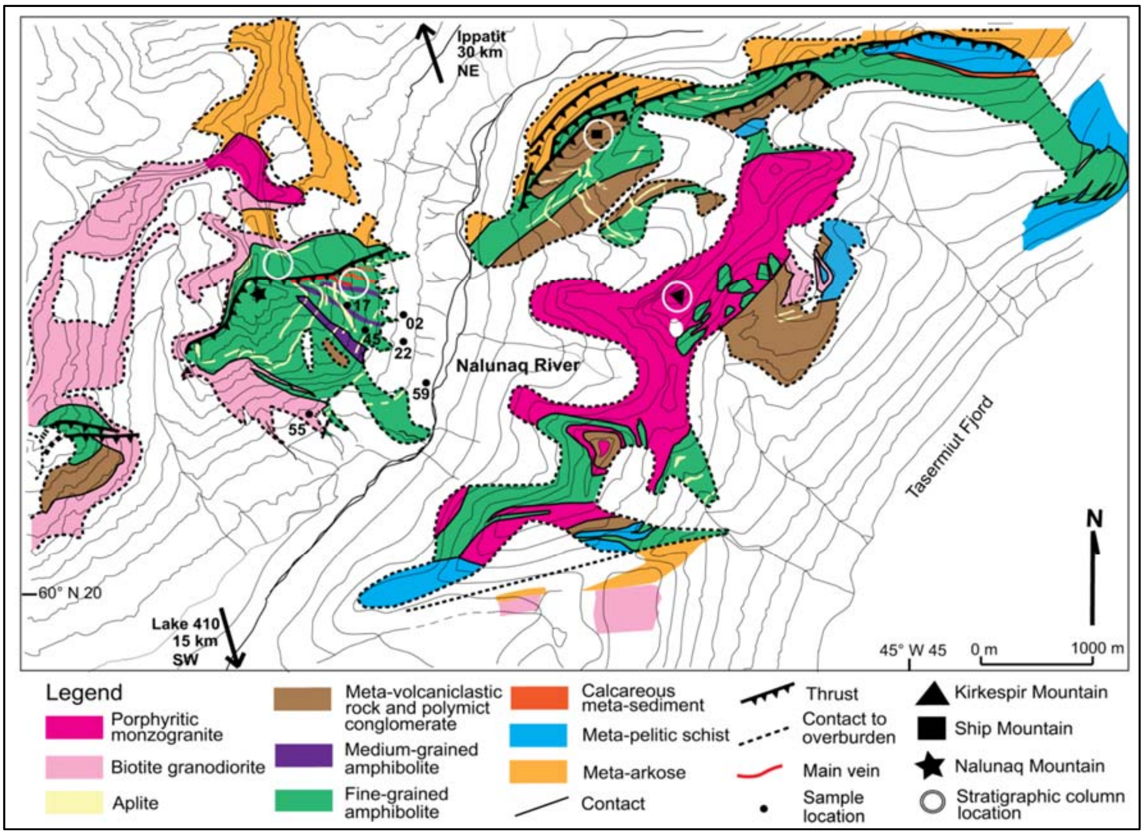


**Figure 6-4 Map of the Kirkespir valley showing the geology of Nalunaq, Kirkespir and Ship Mountains (Bell, 2016, modified from Petersen, 1993)**

*Locations of the stratigraphic columns shown in Figure 6-5 are marked by white circles. Sample locations relate to material taken by Bell (2016) for U/Pb dating*

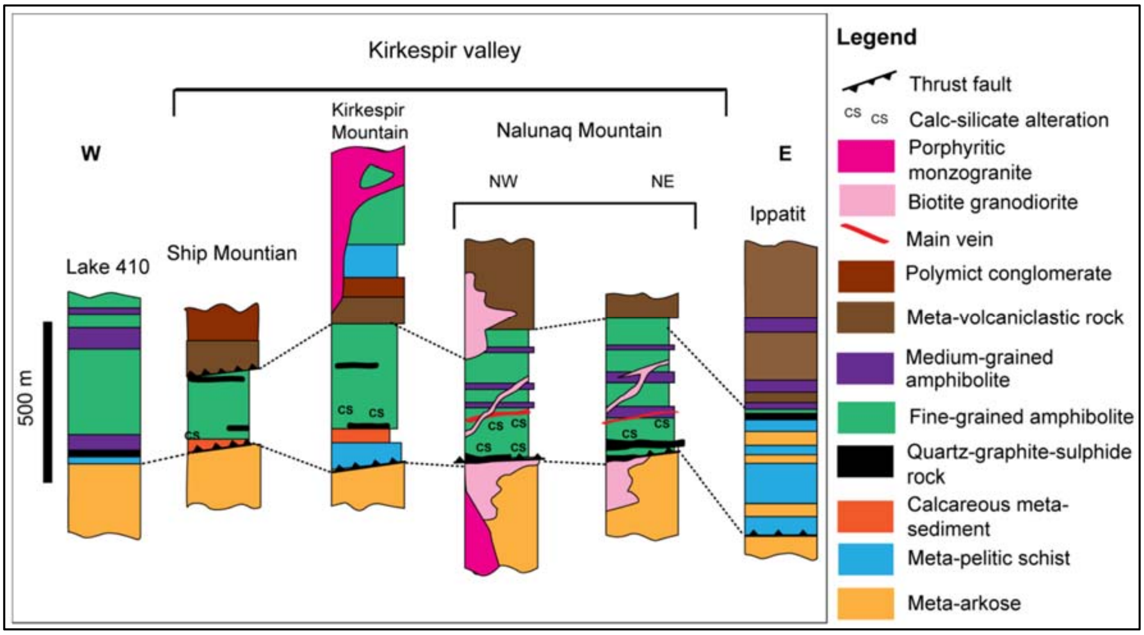


**Figure 6-5 Schematic stratigraphic sequences for sections of the Nanortalik Nappe (Bell, 2016)**

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

Most previous workers believe that the gold-bearing quartz vein is associated with a shear zone that is several metres thick (Secher et al. 2008). The volcanic host rocks have been metamorphosed to upper greenschist or amphibolite facies. Following a review of data from geological mapping (Petersen 1993; Kaltoft et al. 2000) and drilling programmes (Schlatter 1997; Schlatter 1998; Kludt and Schlatter 2000; Schlatter and Aasly 2001), Schlatter and Olsen (2011) drew up a simplified stratigraphic column though the ore-bearing horizons at Nalunaq (Figure 6-8).

Due to the lack of primary volcanic textures and a lack of age relations of the rock sequence, the true stratigraphic way up is unknown. The stratigraphy has therefore been assigned into the structural footwall ("FW") and structural hanging wall ("HW") with respect to the main gold-mineralised quartz vein (Nalunaq Main Vein, "MV") (Schlatter and Olsen, 2011). There is also a less continuous and thinner auriferous quartz vein about 15-20 m above the MV and is known as the Hanging Wall Vein ("HWV").

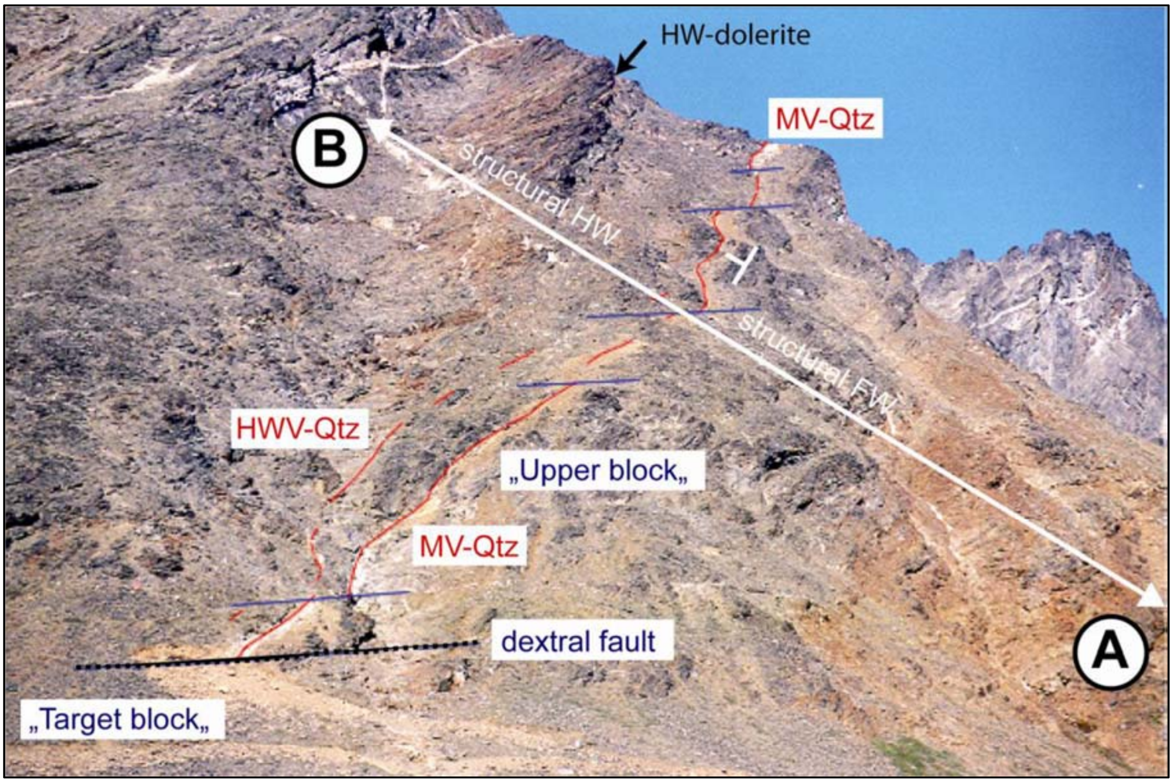


**Figure 6-6 Photograph from Schlatter and Olsen (2011) of the southeast face of the Nalunaq Mountain showing the principal stratigraphic components.**

*The labels A and B refer to positions on the stratigraphic column shown in Figure 6-8. Note that the Upper Block is referred to as the Mountain Block in this report.*

### 6.2.1 Structural Footwall

The FW comprises metavolcanics intruded by biotite granites, and the contacts between these can be seen at surface and in drill). Volcanic and volcaniclastic rocks comprise a sequence of silicified siltstone with abundant sulphides and intercalated graphitic beds, fine-grained amphibolite and coarse-grained dolerite sills or dykes which can be several metres thick, all intruded by thin aplite dykes or sills. Greenish calc-silicate alteration appears to be more common in the FW than the HW, present as elongated lenses and stringers (Figure 6-7) that become increasingly parallel to the MV the closer they become to it (Kolb, 2013). Whilst most authors refer to this alteration as calc-silicate, it more correctly comprises garnet-epidote and clinopyroxene alteration (Kolb, 2013). The sequence of sulphide-rich volcanics represent part of the lowermost stratigraphy of the Nanortalik Nappe and are the base of the mineralised thrust sheet.

**Figure 6-7** **Typical FW lithology showing conjugate veins and stringers of calc-silicate alteration (source: SRK ES 2016)**

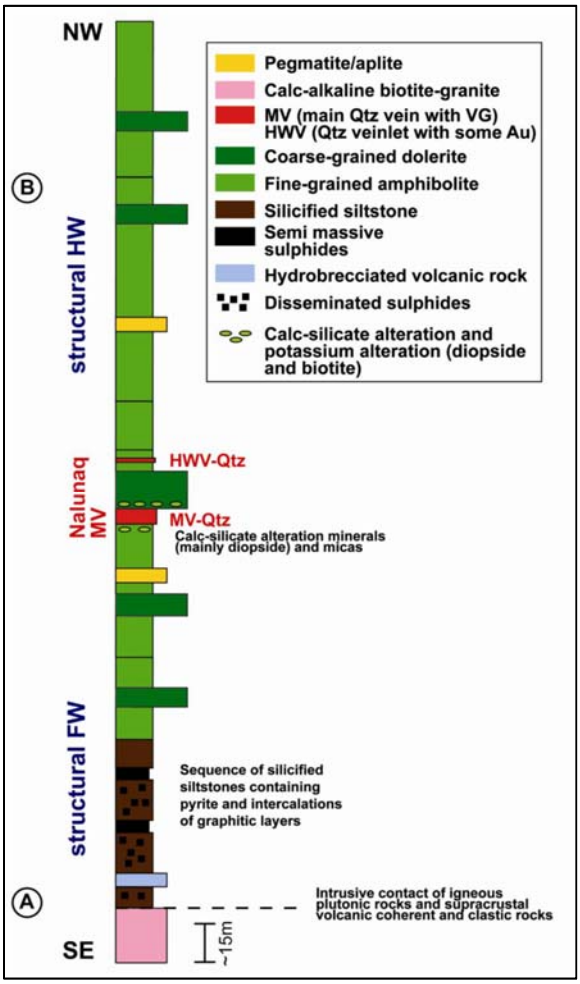


**Figure 6-8** **Simplified stratigraphic column for the Nalunaq Mountain through the ore-bearing horizons (Schlatter and Olsen, 2011)**

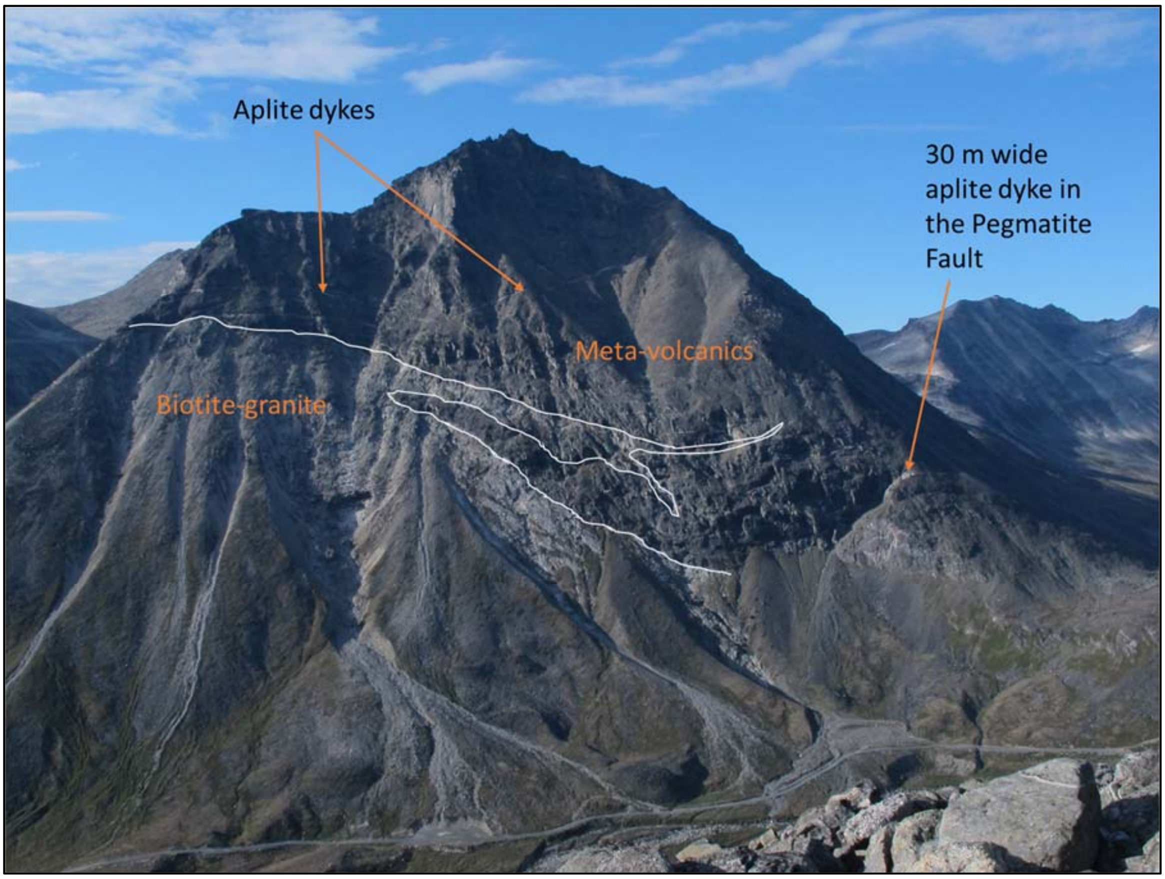


**Figure 6-9** **Photograph of the south-western face of the Nalunaq Mountain showing the biotite-granite intrusion in the FW, meta-volcanics that host the MV and outcrops of aplite dykes (source: SRK ES 2016)**

### 6.2.2 Nalunaq Main Vein

The main mineralised horizon is represented by the 0.5 – 2 m thick MV, commonly with increased alteration extending for up to 1 – 1.5 m in width on both sides of the vein. The MV slightly cross-cuts the foliation and can be traced at surface for over 1 km on the east- and north-facing slopes of the mountain, about 250 m across the western face of the mountain and at least 800 m down the south-western slopes.

### 6.2.3 Hanging Wall Vein

The HWV vein is less continuous, thinner and lower grade than the MV. Its thickness is 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, or it is not present at all. 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.

### 6.2.4 Structural Hanging Wall

The HW consists of a sequence of fine-grained amphibolite and medium- to coarse-grained dolerites, with the MV often carrying increased gold grades at the contact with these dolerites. They are distinctly more massive and darker than FW lithologies (Figure 6-10) and this colour/texture contrast can be seen at distance on surface (Figure 6-6 and Figure 6-11). Several generations of pegmatite and aplite crosscut these lithologies.

**Figure 6-10 Dark coarse-grained meta-dolerite in the HW showing some garnet-epidote alteration (this is less common in the HW than the FW) (source: SRK ES 2016)**

**Figure 6-11 Climbers sampling the MV where exposed on the SW side of the mountain (source: SRK ES 2016)**

*Note the darker HW lithologies above the eroded trace of the MV. Patches of the MV can be seen exposed on the FW surface below and the lower climber to his right hand side. All units cut by aplite dykes*

### 6.2.5 Structural Blocks of the Nalunaq Mountain

The Nalunaq deposit has been divided into three main blocks based on their division by post-mineralisation faulting. From southeast to northwest these are named South Block, Target Block and Mountain Block. The most significant fault is between 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 interpreted by SRK ES to be about 85 m. It is well exposed on surface and intruded by a 30 m thick aplite dyke (Figure 6-12). It is known as the Pegmatite Fault, although does not exhibit particularly pegmatitic textures.

**Figure 6-12 The Pegmatite Fault exposed on the south side of the mountain with the South Block to the east and the Target Block to the west. It has been intruded by a 30 m wide aplite dyke (source: SRK ES 2016)**

Lind et al. (2001) suggest that the Target Block is separated from the Mountain Block by a dextral fault with minor displacement of only a few metres, known as the Mosquito Net Fault. However, former geologists from the Nalunaq mine suggest that, to date, there is limited evidence of faulting in this area and SRK ES has found no evidence of it underground. This area requires further structural assessment, and continuity of the MV between the Target and Mountain Blocks cannot be ruled out.

Other significant faults that cut the MV, albeit with much smaller offsets than the Pegmatite Fault, include the Clay Fault and Your Fault.

Offsets created by these late faults have added considerable complication to exploration, mine design and mining operations at Nalunaq, and misinterpretation of movement on faults could easily result in the MV being lost, even with small deviations in the direction of ore drives or small fault offsets relative to the direction of the drives.

## 6.3 Mineralisation

The presence of gold mineralisation in South Greenland was first recognised in the early 1990s. Gold occurs in structures both within the supracrustal rocks of the Psammite Zone as well as in the Julianehåb Batholith. The gold is typically associated with As-Bi-W-Cu-(Mo). Arsenic is found in small but widespread amounts in the region and is considered a good proxy for gold mineralisation.

Lode-gold systems are generally characterised by a high nugget effect (>50%) and the presence of coarse gold particles (>100 µm in size). This is certainly true for the mineralisation at Nalunaq.

Kaltoft et al. (2000) report that the principal orebody at Nalunaq, the MV, and associated zones of veining are hosted within a '*continuous ductile shear zone*' that is related to deformation and metamorphism associated with the regional Nanortalik Nappe structure. They were emplaced in a brittle-ductile regime during multiple influxes of hypothermal fluids (300-600ºC). They suggest that mineralisation is related to the D4 and D5 events of the Ketilidian Orogeny, and were contemporaneous with granite emplacement.

The MV structure (Figure 6-13) varies in width from 0.05 m to 2.0 m, maintains an average dip of 38° SE, and contains high and sometimes bonanza gold grades (up to 5,240 g/t gold over 0.8 m). Exposures of the vein in underground development often display pinch and swell structures, show evidence of both compressive and dilatational post-mineralisation deformation, and are cut by late aplitic dykes.

The vein also often displays perpendicular quartz-filled tension gashes (Figure 6-14). These may be developed either upwards from the MV or, more rarely, downwards (Figure 6-15). Their presence eludes to deformation in a brittle environment, rather than ductile as suggested by previous workers (Kaltoft et al., 2000).

**Figure 6-13 Classic form of the Main Vein in the Mountain Block showing grey vitreous quartz. 630 Level, stope #1 (source: SRK ES 2016)**

**Figure 6-14 The Main Vein structure in the Target Block exhibiting quartz-filled tension gashes perpendicular to the Main Vein (source: SRK ES 2016)**

**Figure 6-15 Downward-developed tension gashes as part of a 'stacked' MV. 520 Level, stope #28 (source: SRK ES 2016)**

Gold occurs mostly in the native form and locally as the gold-bismuth alloy maldonite and is associated with native bismuth (Grammatikopoulos et al, 2004). Gold fineness ranges from about 800 to 950. Lollingite and arsenopyrite are also observed. Native gold particles range in size from a few microns up to eight millimetres, with coarse visible gold being common in the high-grade sections of the Main Vein.

### 6.3.1 Vein Complexities

As well as complications caused by offsets on late faults, there are also complexities within the vein itself. Whilst the basic structure that hosts the Main Vein shows continuity over thousands of metres, the vein is more variable and shows marked pinching and swelling and splitting, sometimes reducing from tens of centimetres in width to a few centimetres or nothing over a few metres (Figure 6-16). Where the vein pinches out, the hosting structure can still be, often with hydrothermal alteration and some minor, poorly mineralised veining. In some areas the MV is cut or invaded by aplite dykes, causing dilution.

**Figure 6-16 Main Vein reducing in thickness from 110 cm in the foreground to 15 cm over a distance of only 4 m in the 390 Level East reef drive (source: SRK ES 2016)**

### 6.3.2 Ore Controls

Previous workers interpreted that there are three main ore shoots in the MV that plunge towards the east-northeast. However, SRK ES notes that this was based on the assumption that all gold grades used in this interpretation were from samples that were taken on the MV structure. SRK ES is of the opinion that several of the drives have deviated from the MV and a parallel non-mineralised structure either in the HW or FW lithologies was sampled instead, as discussed at length in Section 8.6. This was because sub-vertical tectonics have displaced the MV and exposed these barren structures, giving the impression that the MV had suddenly dropped off in quality. Records show that the displacing faults were sometimes recognised but their effects rarely acted upon. This would have resulted in false boundaries being assigned to the gold mineralisation, leading to the interpretation of the ore shoots, whilst the mineralisation may in fact continue further along strike. Whilst SRK ES' data modelling does indicate some directional bias (which may in itself be a function of data distribution) that agrees with the ore shoot model, it should be noted that further exploration may result in a new interpretation.

Three-dimensional modelling by Bell (2016) revealed structural controls on mineralisation, whereby the highest grade sections of the deposit coincide with more steeply dipping parts of the MV. This may be true on a local scale but SRK ES finds that, on a deposit scale, there is a weakly inverse correlation between gold grade and the dip of the MV (Figure 6-17).

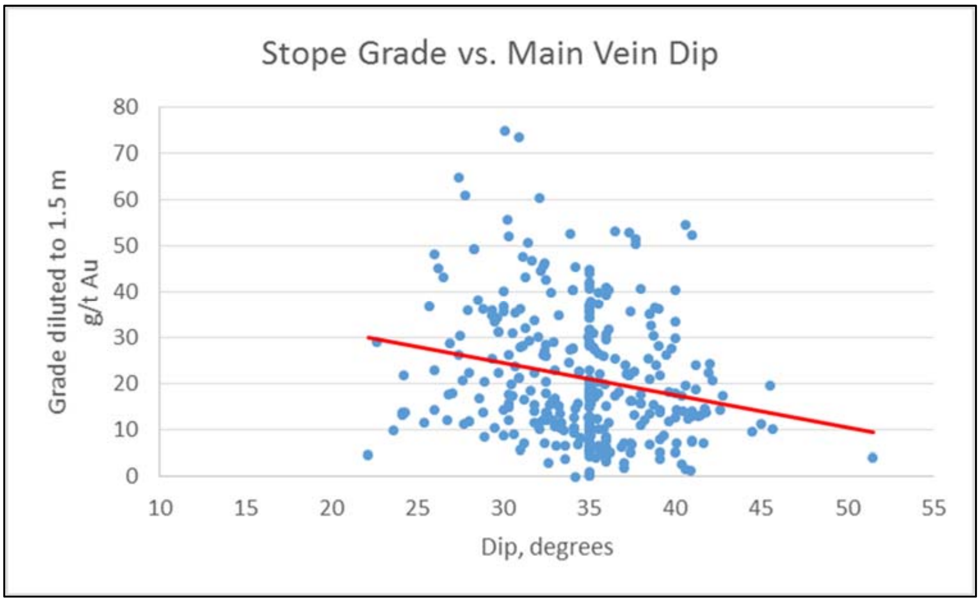


**Figure 6-17 Comparison of Crew Gold's stope grade estimates against dip of the Main Vein as measured by Crew Gold**

The MV is located along a contact between fine-grained meta-volcanics in the FW and medium- to coarse-grained meta-dolerites in the HW, and areas of increased gold grade tend to occur where the HW meta-dolerites are well-developed. This contact is readily visible in the mine and, as an exploration tool it provides a distinctive marker that can be observed around the mountain. It may also have resulted in increased gold precipitation due to chemical and/or competency contrasts, with the latter possibly resulting in local changes in the geometry of the vein as observed by Bell (2016). The FW/HW stratigraphic boundary was, in SRK ES' opinion, an original layer of permeability that was clearly enhanced when deformation events exploited it.

Late-stage faults appear to correlate with localised areas of low gold grades, suggesting remobilisation of gold. The role of granite intrusions and aplite dykes in remobilisation and possibly re-precipitation of gold requires further work.

Bell (2016) also used petrographic thin section analysis to show that sulphidation, saussuritization and hydrolysis reactions are important in precipitating gold, which may suggest an $Au(HS)_2$ transport complex for gold.

### 6.3.3 Alteration Associated with Gold Mineralisation

Mineralised zones at Nalunaq show hydrothermal alteration that is commonly associated with orogenic gold deposits formed at high pressure and temperature (Figure 6-19). The most abundant hydrothermal alteration minerals are quartz, biotite, diopside, Ca-rich amphibole, Ca-rich plagioclase, carbonates, muscovite, epidote, scheelite, chlorite, tourmaline, and sphene (Kaltoft et al., 2000; Grammatikopoulos and Kristic, 1999).

Whilst the MV itself represents the principal ('proximal') hydrothermal feature, 'medial' and 'distal' alteration zones are found in symmetry either side of the MV. The medial zone is about 15 cm thick and includes banded biotite alteration with sulphides. The distal zone is about 1.5 m thick and comprises calc-silicate and silica-altered amphibolites or dolerites depending on the stratigraphic position of the MV.

Gold mineralisation is always associated with distal calc-silicate alteration. However, strongly calc-silicate altered amphibolites may be found in barren areas of the FW and HW (Figure 6-19(b)), sometimes far from the MV, suggesting that alteration was caused by fluids that did not carry gold.

The calc-silicate alteration is comprised of two types (Figure 6-18; Kolb, 2013):

- **Garnet-epidote alteration:** Bright green in colour and often features clusters of 0.25-1 cm wide garnets, sometimes with large pyrite and chalcopyrite crystals. The texture varies from replacement to strong veining in lower parts of the mine. It is not observed throughout the mine and is more prevalent in peripheral areas;
- **Clinopyroxene alteration:** 0.25-5 cm wide pockets of 0.25-2 mm biotite and feldspar crystals, and a green clinopyroxene-quartz granular halo which is 2-30 cm in width. Grain size is generally similar to the host rock, apart from biotite and feldspar. Arsenopyrite and pyrrhotite may be associated. This type of alteration overprints the garnet-epidote alteration.

When very high gold grades are encountered in the vein, the alteration zone may also sporadically carry significant gold grades, but is generally of low grade (Grammatikopoulos et al, 2004).

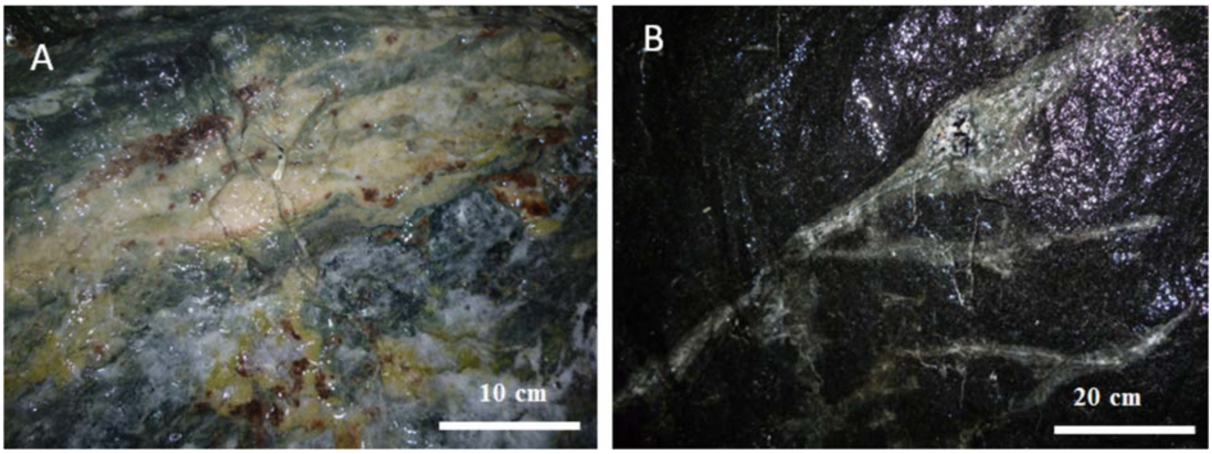


**Figure 6-18 A. Garnet-epidote alteration almost completely overprinting the host rock. B. Darker green clinopyroxene alteration observed as streaks and blebs (source: Kolb, 2013)**

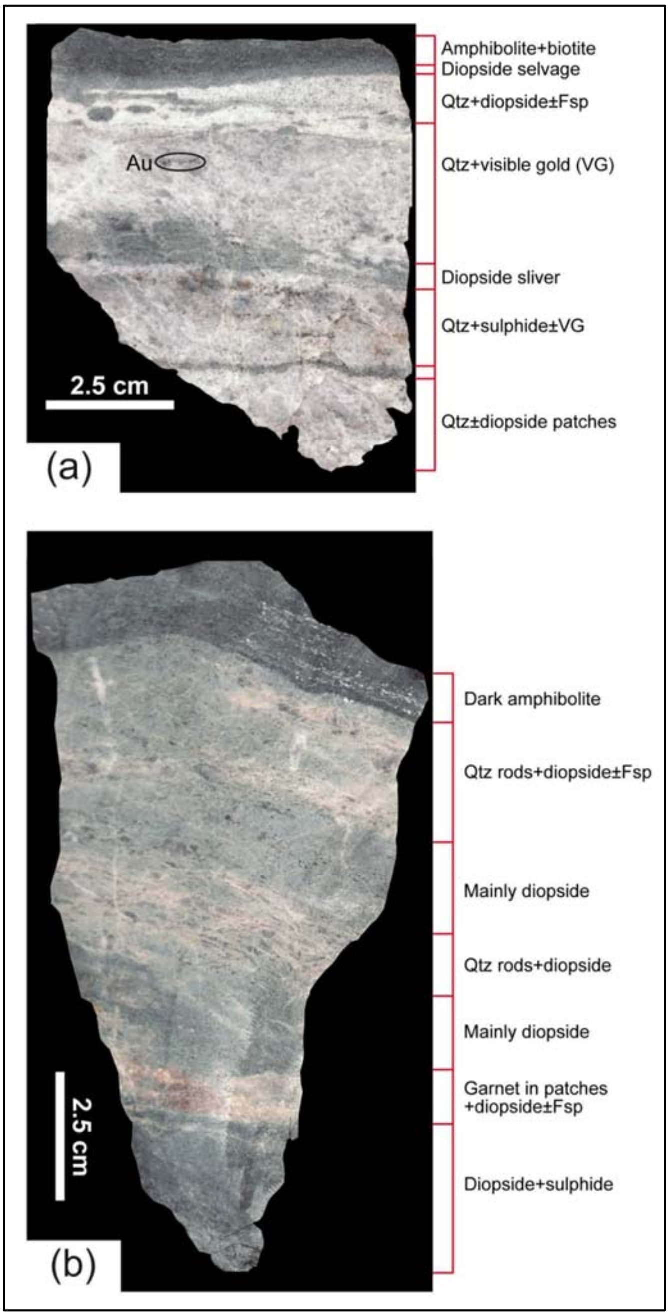


**Figure 6-19 Examples of alteration assemblages from Nalunaq (from Schlatter and Olsen, 2011)**

*Although the rock shown in (b) exhibits strong alteration, it is not from a gold-mineralised location.*

Petrographic and dating studies by Bell (2016) indicate that multi-stage hydrothermal alteration occurred over a period of 40 million years, pre- and post-dating mineralisation, and can be correlated to deformation events in the Palaeoproterozoic Ketilidian Orogen. A correlation between high gold grades and a 20 cm wide biotite-arsenopyrite alteration zone is also noted. Isotope analyses suggest that early amphibolite alteration was caused by fluids with a crustal source, while fluids that formed the gold-quartz veins have an orogenic source, and fluids forming the greenschist facies alteration are meteoric and contemporaneous with late-stage faulting.

## 6.4 Structural Influences on Main Vein Morphology

Most historic reports and academic documents refer to the structure that hosts the MV as a shear or a ductile shear zone. In SRK ES' opinion, the MV structure in its current form is a result of multiple phases of deformation simply described as extensional (pull apart), thrusting (compressional) and then a later stage extensional regime which may be coincident with the granite aplite dyke intrusion. This is based on the regional and local geological setting and SRK ES' underground observations of the morphology of the MV and the hosting structure in areas where veining is absent.

The MV is most spectacular, and possibly carries most gold, where it is made up of multiple layers of quartz veining. It can exhibit a good deal of internal structure that may indicate syn- or post-mineralisation movement. Stacked quartz layers creating thicker reef (Figure 6-20), small ramp-like surfaces (Figure 6-21) and tight folds with axes perpendicular to the MV dip (Figure 6-22) may indicate of thrust movement. Structures such as 'thinned remnant quartz lenses' (Figure 6-23), internal shear planes and tension gashes (Figure 6-14) are more suggestive of pull-apart extensional tectonics.

SRK ES considers that there may have been three main tectonic episodes; the timing of these is not yet clear and this deserves further work.

1. It is possible that the MV was emplaced along an original fault plane; gold-bearing hydrothermal fluids migrated into this to form the quartz-gold vein, becoming especially well developed in dilational zones that resulted from this pull-apart tectonic regime as evidenced by the tension gashes. The fault may have exploited a stratigraphic contact between the coarse-grained amphibolite in the HW and the finer grained amphibolites in the FW;
2. The structure was then subjected to a thrusting event where, in places, quartz vein layers were ramped up over each other causing stacking and zones of thicker reef (as observed in the Target Block). It is acknowledged that the current evidence for thrusting is very much at a local scale. It may not be the case that the entire vein was deformed in a thrusting event;
3. Finally, there seems to have occurred a flattening event (extension parallel to the MV) resulting in a foliation parallel to the MV and 'pinch and swell' of the MV. This translates into localised thinning of existing quartz veins into remnant lenses/slivers connected by a single surface (as observed in the upper Mountain Block). It is acknowledged however that surfaces bereft of vein quartz could also be created on a thrust plane on the steep part of a ramp or down dip of it. It is possible that this event preceded or accompanied the intrusion of the granite body beneath Nalunaq Mountain. The aplite dykes that emanate from the granite seem to represent the last tectonic movement. The manner in which they invade and exploit the MV zone suggests that this last event could have been closely related.

**Figure 6-20** **Interpreted duplication or 'stacking' of the Main Vein as a result of post-mineralisation thrusting. An upwards sequence of FW- MV- HW-Thrust-FW-MV-HW is observed. 520 Level Target Block, stope #28 (source: SRK ES 2016)**

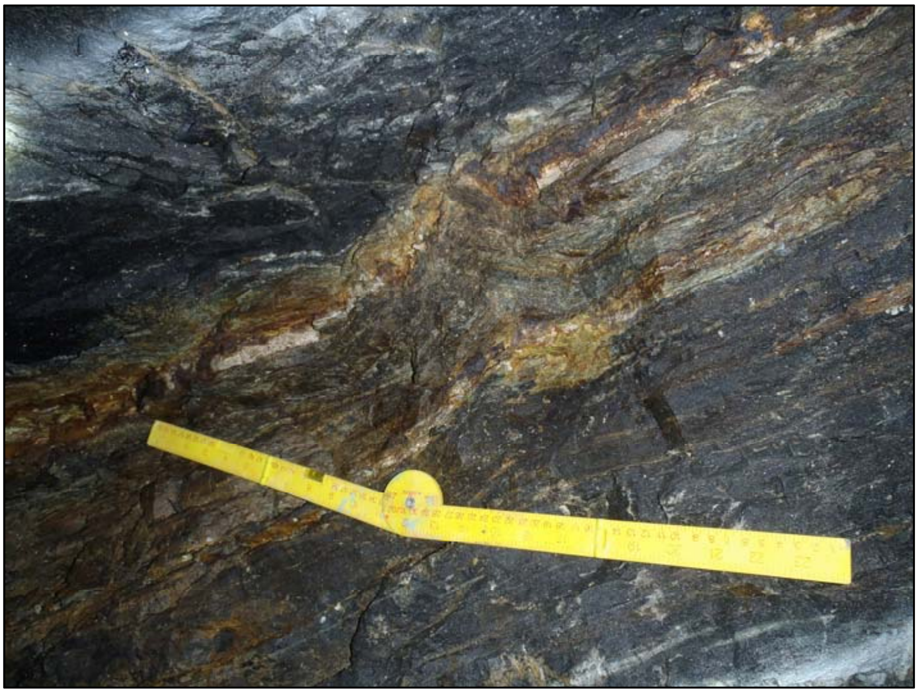

**Figure 6-21** **Small ramp-like structure resulting from thrusting on the MV structure (devoid of veining at this location). 600 Level East Mountain Block (source: SRK ES 2016)**

**Figure 6-22 Examples of 'nose cone' features that may have resulted from thrusting and overturning of the Main Vein after emplacement. Top: 320 Level East South Block. Bottom: 340 Level Target Block (source: SRK ES 2016)**

**Figure 6-23 'Remnant slivers' of MV possibly resulting from late-stage extensional deformation. 720 Level Mountain Block East (source: SRK ES 2016)**

In some areas (600, 640, 670 and 680 Levels Mountain Block west) the MV is not represented by any veining and is just a planar structure (Figure 6-21 and Figure 6-24). Grey vitreous quartz and reasonable gold values (e.g. 5.90 g/t gold over 0.70 m in chip sampling in the 670 Level) testify to the fact that the structure is indeed the MV. Such areas where quartz veining is absent may be reasonably large, as can be expected if a thrust or an extensional fault plane has developed along the MV. The MV has effectively been tectonically thinned if the thrusting context is correct; if there are areas of duplicated quartz veining it is reasonable to suspect that there must be barren areas from which those stacked veins have been thrust away. This implies that exploration will no doubt encounter areas of the MV structure where there is no veining. Differentiation of the MV structure from other structures must therefore rely on the stratigraphic position and the alteration assemblage.

In some areas of the mine, notably from the 550 to 530 level on the western side of the Target Block, the MV is thin (+/- 20 cm) with small tension gashes and the alteration assemblage is dominated by biotite. The abundance of biotite seems to have an adverse effect on the strength of the surrounding rock in this area; some falls of ground are observed and there are also numerous aplite sills and dykes close to or inside the MV structure which may have exploited these weak zones.

**Figure 6-24 Main Vein structure represented as a planar structure only with no veining. 680 Level Mountain Block West (source: SRK ES 2016)**

## 6.5 Influences of Aplite Dykes and Sills

Numerous aplite dykes and sills are found within the mine area and throughout Nalunaq Mountain. These emanate from the granitic intrusions that underlie the mountain (Figure 6-25) and cross-cut and invade the main orebody. More attention is required to determine their influences with respect to gold grade, structural understanding and mine planning:

- Their possible role as a heat engine in the remobilisation of gold is not yet understood. Their possible association to multiple populations of gold grades in Nalunaq is worth investigating further (see Section 13.6.2);
- Several areas have been observed where dykes have intruded faults (Figure 6-29), or faulting has occurred post-intrusion (Figure 6-28). In both cases, the presence of a fault and the possible offset of the MV may not have been recognised due to the feature being obscured by the dyke, causing the drives to deviate away from the MV;
- Some areas of the mine show more intensive levels of intrusion and therefore dilution of the orebody (Figure 6-30). In future it will be important to recognise these areas in advance such that mining can be planned accordingly. It is reasonable to assume that dykes and sills will become more numerous closer to the granitic intrusions, both along strike and down-dip.

As far as SRK ES is aware, no mapping of the aplites has been carried out for most of the mine, apart from in the early exploration drives. It would be useful to compile data for their thickness, orientation and frequency and incorporate this into 3D models for the mine. This could be overlain onto a grade distribution map and also compared to surface outcrops of aplites. If there is correlation between underground and surface aplite occurrences, this could be used as a predictive tool for future underground development and mining.

**Figure 6-25** Views of the granitic intrusion that underlies Nalunaq Mountain and aplite dykes/sills that emanate from it. Left: northern side of mountain. Right: southern side of mountain (source: SRK ES 2016)

**Figure 6-26** Aplite dyke on the main ramp adjacent to the 560 Level cross-cutting FW lithologies (source: SRK ES 2016)

**Figure 6-27 580 Level ventilation raise – on an aplite dyke but apparently sampled as shown by blue sampling lines (source: SRK ES 2016)**

**Figure 6-28 Aplite dyke exposed on the wall of the 350 Level West. There is fault gouge at the margins of the dyke indicating movement post-emplacement (source: SRK ES 2016)**

*This feature had been wrongly marked underground as the Clay Fault; the Clay Fault is a short distance to the east of this dyke*

**Figure 6-29 Large aplite dyke on the 720 Level Mountain Block West exploiting a fault (MV displaced) (source: SRK ES 2016)**

**Figure 6-30 Aplite dyke exploiting the MV structure on the 600 Level West (source: SRK ES 2016)**

# 7 DEPOSIT TYPES

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:

1) Generally less than 1 m in thickness;
2) Dominated by quartz veining;
3) Structurally controlled;
4) Associated with wall rock hydrothermal alteration that shows symmetry in the hanging wall and footwall;
5) Having a formation temperature of between 300-600 ºC at a crustal level of about 10 km depth (Figure 7-2) and related to brittle-ductile deformation (Kaltoft et al., 2000); and,
6) Dominated by coarse, often visible gold and a nuggetty grade distribution (Figure 7-1).


**Figure 7-1 High grade gold-quartz vein sample from the Nalunaq Main Vein containing coarse gold (source: Crew Gold Corporation).**

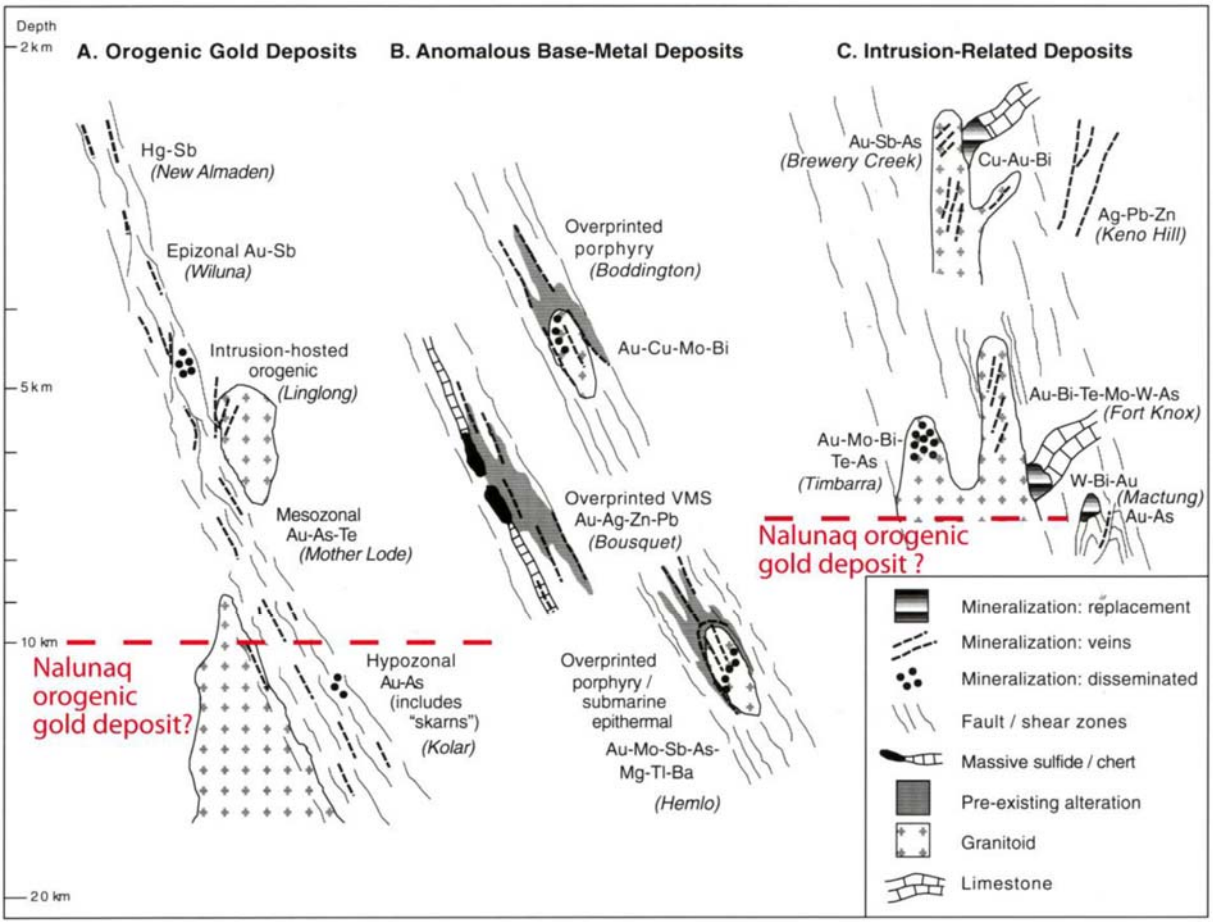


**Figure 7-2 Classification of gold deposits after Goldfarb et al. (2005), adapted by Schlatter and Olsen (2011) to illustrate Nalunaq's classification as a hypozonal orogenic gold deposit.**

High salinity (14-26 wt% NaCl + $CaCl_2$ eq.) observed in fluid inclusion studies on Nalunaq samples by Kaltoft et al. (2000) may indicate that the Nalunaq deposit is related to intrusions (Schlatter and Olsen, 2011). "Typical" orogenic gold deposits are more commonly characterised by low salinity (≤ 6 wt% NaCl eq.) fluid inclusions (Groves et al. 2003).

The age of gold mineralisation at Nalunaq has been estimated at 1.8 to 1.77 billion years (Stendal and Frei, 2000) which is a favourable age when compared to orogenic gold deposits worldwide (Goldfarb et al., 2005, Figure 7-3).

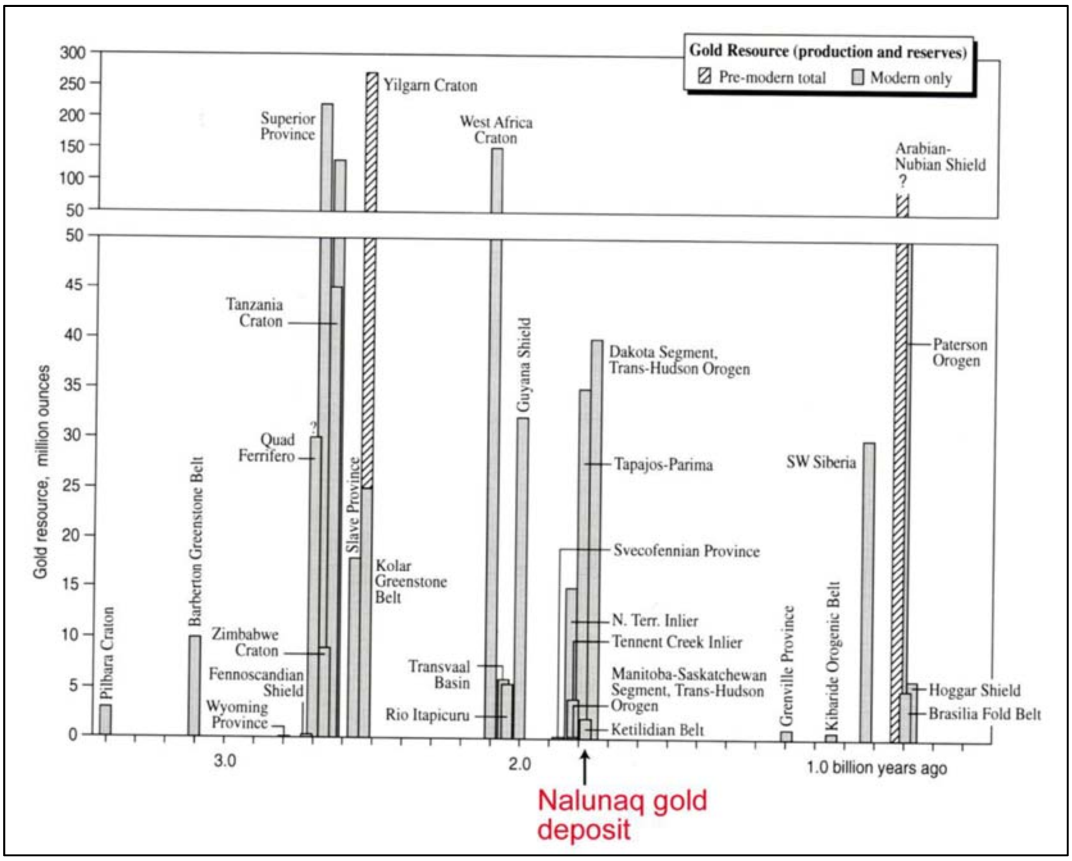


**Figure 7-3** **Around 1.8 Ga is a favourable age for gold mineralisation and the Nalunaq deposit in the Ketilidian Belt falls within this window (from Goldfarb et al. 2005, adapted by Schlatter, 2011).**

## 7.1 Resource Estimation Complexities with Nalunaq Style of Mineralisation

On account of their narrow size, coarse mineralisation and high (or extreme) nugget effect, orogenic narrow-vein gold deposits rank amongst the most difficult of deposit types in terms of producing an accurate and precise resource estimate. Sampling them effectively is difficult because of the relatively low concentrations involved and erratic nature of the gold particles. Grade continuity is usually less consistent than gross geological continuity, and is typified by the localisation of high grades within discrete ore zones or "shoots". There is potential to miss high grade shoots due to their restricted spatial nature, and assumptions that ore shoots show continuity along strike and down dip may not hold true.

In many cases drilling, particularly diamond drilling, is an effective measure of global geological continuity, whereas grade can only be reliably estimated from underground development and sampling, often undertaken at close spacing. Depending upon drill density and geology, it is unlikely that anything above an Inferred Mineral Resource can be estimated from surface or underground diamond drilling alone. An additional implication with this style of mineralisation is that it is possible that no 'bankable' reserves may be in place prior to production start-up.

# 8 EXPLORATION

## 8.1 Introduction

Historical exploration at Nalunaq prior to Nalunaq A/S' involvement is summarised in Section 5. The following sections describe exploration competed by Nalunaq A/S since 2015 which has resulted in, amongst other things, confirmation of mineralisation over larger areas that previously demonstrated, and significant new structural interpretations.

## 8.2 Nalunaq A/S Surface Exploration 2015

The outcrop of the Main Vein to the north of the old mine and running up the north-eastern and northern sides of the mountain has been known about for some time and sampled fairly extensively. However, the continuation of this outcrop around the western side of the mountain as well as on the south-western flanks has long been postulated.

A major objective of Nalunaq A/S' 2015 exploration programme was to locate and sample this suspected continuation of the MV outcrop. This would allow for the extension of the prospective MV structure up-dip and along strike, raising the possibility of substantial additions to the resource potential at Nalunaq. Also it would allow new assessment of the form and geometry of the vein if present in this area.

The MV outcrop area to the west is on the sheer face of the Nalunaq Mountain on the opposite side of the mountain to the minesite. Access therefore required the skills of specialist mountaineers.

### 8.2.1 Sampling of the Upper Mountain Block

Following an orientation helicopter flight to assess the likely location of the MV, the west face of the mountain was accessed on ropes by two mountaineers from Hekla Consulting Ltd.. The MV structure was located and sampled over a period of three days ($28^{th}$-$30^{th}$ August 2015).

The mountaineers were set down by helicopter on the crest of Nalunaq Mountain and traversed down to a terrace which was then used as a base for descending. A fixed line was established along the terrace extending laterally along the west face for approximately 210 m.

Five abseil descents (each separated laterally by approximately 50 m) from this fixed line to the projected location of the MV were conducted; on all occasions the MV structure was encountered. The descents were monitored by two geologist spotters on an opposite mountain who guided the mountaineers via VHF radio to the MV location. The mountaineers then collected samples where possible and used a handheld GPS to take an averaged (5 minute) location. In addition to sampling the MV, quartz stringer veins were sampled and located by GPS when possible.

Samples were collected using a geological hammer and biased toward quartz, and no more than 3 kg in size each. They were placed into cotton sample bags, given an ID number and GPS location, and sent to ALS Geochemistry in Ireland for analysis.

The trace of the MV structure where exposed on the west face of the mountain is shown in Figure 8-1. Preferential erosion has taken place along the structure which aids its identification (Figure 8-2). The base of the Nanortalik Nappe can also be seen as the distinctive zone of iron staining in these photographs.

**Figure 8-1** **Trace of the MV structure (yellow line) across the west face of Nalunaq Mountain showing strike extension along a distance of about 230 m (source: SRK ES 2016)**

**Figure 8-2** **Detail of the MV structure on the west face, present as an eroded feature within the yellow rectangle (source: SRK ES 2016)**

## 8.3 Nalunaq A/S Surface Sampling 2016

In August 2016, Nalunaq A/S again deployed a team of Hekla Consulting Ltd. mountaineers to Nalunaq in order to continue the sampling of the suspected MV outcrop down the south-western flank of the mountain. The MV structure could be clearly followed across the western face (sampled in 2015) to where it crosses over the ridge and dips down the south-western flanks (Figure 8-4). Therefore, it is highly likely that it was the same structure being sampled.

The mountaineers were inserted by helicopter and all work required access by rope. They were monitored by a geologist spotter on the opposite side of the valley who guided the mountaineers via VHF radio to the MV location. As in 2015, it was not possible to cut channel samples using rock saws; samples were obtained with geological hammers across the MV outcrop with all efforts made to be as representative of the in situ rock mass as possible. Nonetheless, there is a chance that the samples could be biased towards quartz. Samples were typically between about 1 kg and 3 kg in weight.

Sample locations were recorded using a handheld Garmin GPS unit. At each sampling location, the true width of the MV structure was recorded as well as its dip, strike and basic geological characteristics. The climbers were instructed how to take dips and strikes with Silva Ranger type compass-clinometers by SRK ES. Their competency in this regard was regularly tested. Photographs were also taken at each sampling location.

Samples were placed into cotton sample bags, given an ID number and GPS location, and sent to ALS Geochemistry in Ireland for analysis.

A total of 89 samples were obtained from 66 locations along a profile down the mountainside; more than one sample was taken at some locations. This resulted in the MV structure being mapped and sampled over a lateral distance of about 690 m and a vertical distance of 430 m from 1,150 m to 720 m above sea level, thus representing down-dip continuity of over 800 m (Figure 8-3).

**Figure 8-3 Approximate position of the 2016 sampling profile on the southwest flanks of Nalunaq Mountain (source: SRK ES 2016)**

**Figure 8-4 The Main Vein structure clearly visible (highlighted as the red line) on the upper parts of the 2016 sampling profile. Mountaineers circled for scale (source: SRK ES 2016)**

## 8.4 Main Vein Geometry

### 8.4.1 Nalunaq West Face

For the first four descents working southwards across the west face of the mountain, the MV was found to be consistent in its thickness and appearance, being of between 0.3-0.5 m thick and dominated by quartz. The MV characteristics changed on the fifth descent (furthest west) where it comprised a number of stringers, as opposed to a single quartz vein. It is however possible that the MV may be obscured in this location by an accumulation of rock debris, and only stringers located above the MV may have been sampled on this occasion.

On all five descents, quartz stringer veins – at least some assumed to be the Hanging Wall Vein – were also identified above the MV. These are narrow, approximately 5 cm thick, and ranged in abundance from one to three. They were found between 2-15 m above the MV.

### 8.4.2 Nalunaq Southwest Flanks

SRK ES is more confident that the upper set of samples from the 2016 profile are on or near the MV structure. This is on account of the ability to follow the structure from where it crosses the west face, and observations of alteration, HW and FW lithologies that are characteristic of the MV structure and that are more commonly observed in the upper parts of the profile compared to lower down.

The lower set of samples is less clearly on the structure; below about 900 masl, the structure became more difficult to follow partly due to scree cover, a larger number of intrusive dykes and sills and a reduced topographic expression of the structure. It is therefore possible that a different structure was followed. This may explain the change in orientation of the sampling profile and the change in the structural measurements.

In several locations, especially in the lower part of the profile, no quartz veining was observed along the structure that was followed. This may be expected as the MV is known to pinch and swell.

The thickness of the features sampled, where measured, is variable between 0.02 m and 0.25 cm with no apparent correlation to elevation. Where material is observed that can be confidently interpreted as the MV, it tends to be between 0.10 m and 0.25 m in thickness.

It is also notable that the principal structure of interest often exhibits increased amounts of erosion compared to surrounding rocks, thus forming overhangs or gullies. This could be due to the increased alteration in rocks adjacent to the MV making them more susceptible to weathering. It is possible that this may result in the surface expression of the MV appearing thinner than it may be in unweathered areas. Also, in some areas (including those where high grade material was sampled), the HW rocks have been eroded completely, leaving the MV exposed as a veneer of vein quartz on the mountain surface (Figure 8-5).

**Figure 8-5 Main Vein fully exposed at 1,122 m with HW rocks having been eroded (sample ID 14393. Source: SRK ES 2016)**

*Typical alteration and conjugate stringers/alteration is observed in the footwall. 21.40 g/t gold in rock chip sample at this location*

Structural measurements on features that were sampled in this area appear to show two trends, changing at about halfway down the sampling profile. Between elevations of 1,250 m and 850 m, the average (n=46) dip is 41° and strike is 050°. Below this, between 848 m and 718 m, the average (n=12) dip is 33° and strike is 033°. This change occurs where the trend of the sampling profile moves from southeast to east-southeast and indicates that either the trend of the MV changes, or a different structure was followed and sampled.

Overall, however, structural measurements taken along the sampling profile show excellent correlation to structural measurements taken underground for the MV within the mine area (Figure 8-6). This provides further support that the structure sampled at surface was the MV structure.

If surface structural measurements are separated into those above 904 m (high confidence of MV) and those below 904 m (less confidence) and plotted on the stereonet with their 95% confidence cones, then it can be seen that there is slightly better correlation between the upper measurements and the underground measurements than that for the lower measurements (Figure 8-7). This may be further evidence that the upper samples represent the MV and the lower samples may have deviated from the structure.

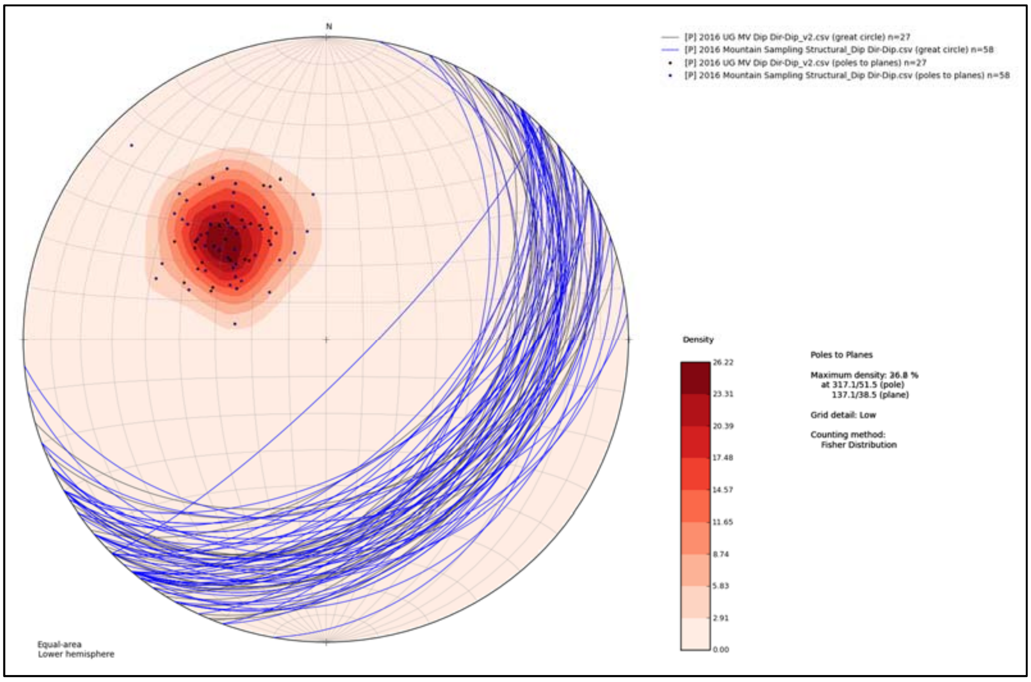


**Figure 8-6 Stereonet showing structural measurements taken on the interpreted MV structure on the SW flanks of the mountain and underground (SRK ES 2016)**

*Blue lines and points: surface measurements on SW side of Nalunaq; Black lines and points: underground measurements within the mined area*

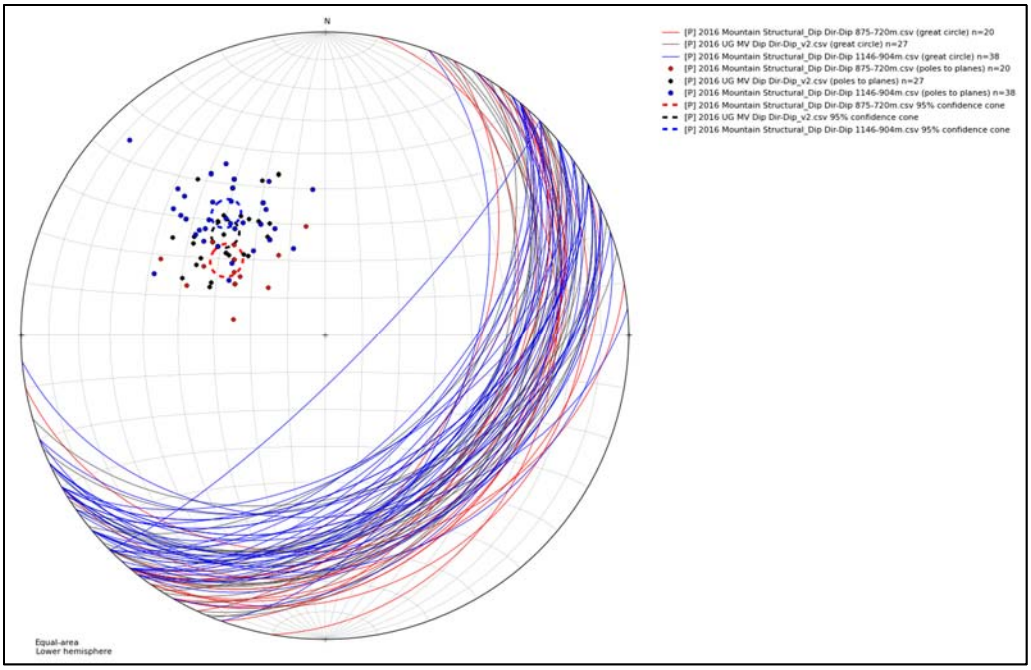


**Figure 8-7 Stereonet showing structural measurements taken on the measurements taken on the MV structure underground and on the SW flanks of the mountain, divided into upper and lower sample locations**

*Black lines and points: underground measurements within the mined area; Blue lines and points: surface measurements on upper SW side of the mountain; Red lines and points: surface measurements on lower SW side of the mountain;*

## 8.5 Sample Analysis Results

The 113 surface samples taken during the 2015 and 2016 field seasons were submitted to the ALS Geochemistry laboratory in Ireland for analysis. The samples were crushed, pulverised and analysed using a screened metallic fire assay method (ALS code Au-SCR24). This involves screening the sample at 100 microns and analysing the coarse and fine fractions separately, with the results providing an indication of the proportions of coarse and fine gold mineralisation.

Results for gold are shown in Figure 8-8, plotted onto the satellite imagery for the area and showing the existing mine layout superimposed for context. The results are plotted alongside historical sampling results across the northern side of the mountain for context and to show full sampling coverage, although recent and historic results should not be directly compared due to differences in sampling methods. Historical grades are considered to be more representative due to their larger sample size and more regular coverage. It should also be noted that numerous low grade results in the historical data are obscured by the symbols used for high grade results; they are not all very high grade.

The best result from the 2015 programme was 32.50 g/t gold from a 0.50 m thick vein. In 2016, the best result was 23.70 g/t gold from a 5 cm thick vein. Full sample results for the 2015 and 2016 programmes are provided in Appendix A.

The sample results show erratic but occasionally high gold grades. These, combined with geological observations and structural continuity between areas, strongly suggest that the feature sampled on the west and southwest faces of the mountain was indeed the MV. Furthermore, photographs and geological observations taken at locations that yielded elevated gold grades show typical features of the MV with respect to the nature of the vein, FW and HW lithologies and associated alteration (Figure 8-9).

It must be noted that, due to the terrain and difficult access, this sampling was at a much wider spacing than historical rock chip sampling along the north-eastern outcrop of the MV. Also, the 2015 and 2016 samples were necessarily smaller for logistical reasons, and small samples are generally thought to under-report gold grades at Nalunaq (Dominy et al., 2006). Despite this, the results seem to illustrate the same extremely nuggety style of coarse gold mineralisation that is known at Nalunaq. This is also seen from the screen fire assay results whereby samples with a total grade above 2.4 g/t gold contain the majority of their gold within the coarse fraction.

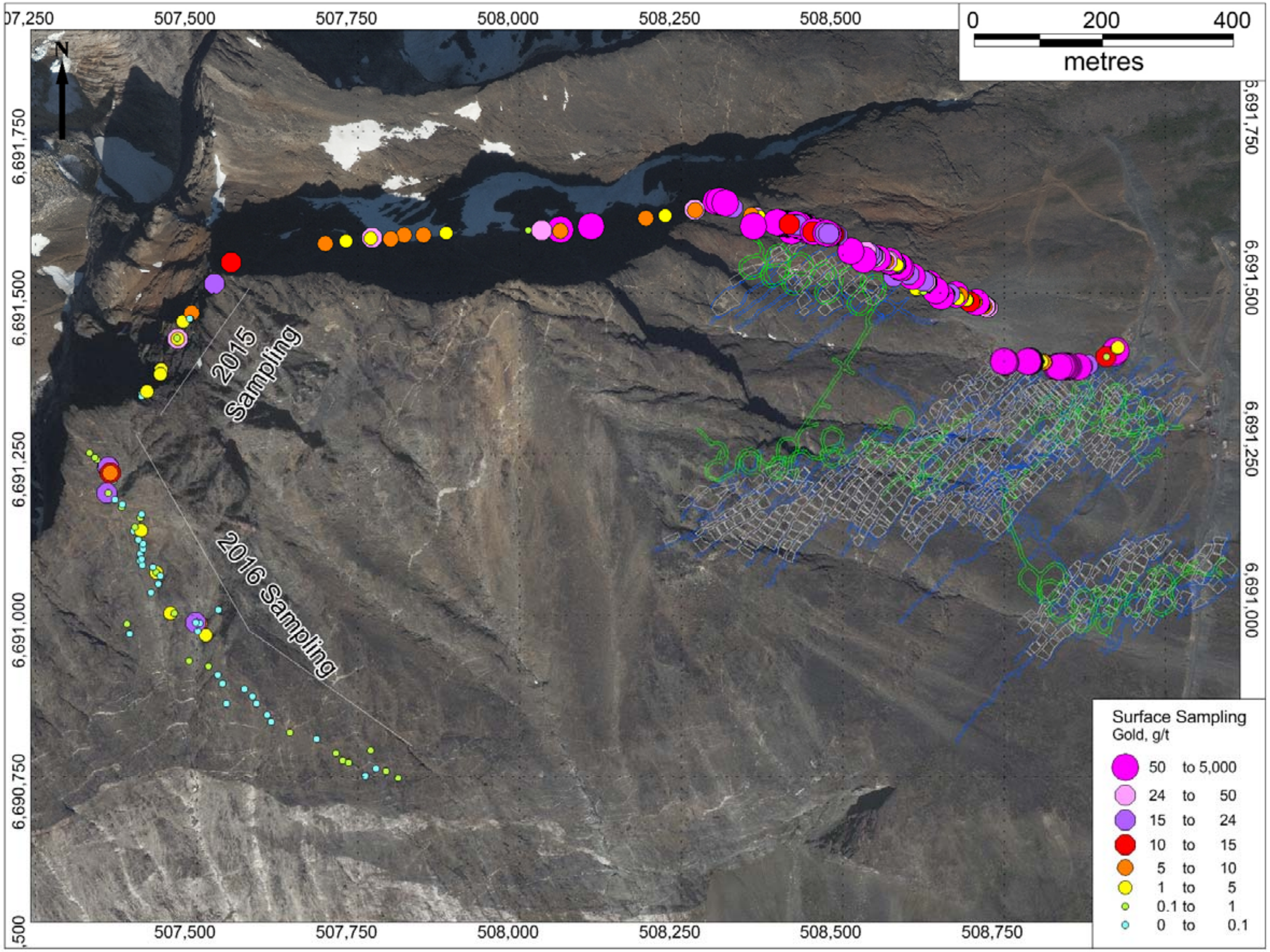


**Figure 8-8** **Results of 2015 and 2016 surface sampling on the W and SW sides of Nalunaq, plotted alongside historical sampling results across the N side of the mountain to show full sampling coverage, although grades should not be directly compared (source: SRK ES 2016)**

**Figure 8-9 Characteristic MV (top) and typical alteration associated to the MV (bottom) exposed at 919 m (sample ID 14421. Source: SRK ES 2016)**

*Also note the characteristic contrast in FW meta-volcanics and HW meta-dolerite lithologies that is often found in mineralised areas. 5.75 g/t gold in rock chip sample at this location*

### 8.5.1 Conclusion

The identification of the MV on the west and southwest faces of the mountain has been confirmed for the first time (as far as SRK ES is aware) by geological observations, structural measurements and sampling results. This plus the historic sampling results demonstrates the up-dip and along-strike continuity of the MV structure, and confirms that it is still mineralised. The lowermost mineralised sample (sample ID 14443, elevation 884 m, 3.47 g/t gold), is located a strike distance of about 930 m from the uppermost part of the Mountain Block and 770 m from the uppermost part of the Target Block. The up-dip extension of the Main Vein structure from the top of the Target Block to the outcrop on the west face is about 1,000 m. Thus, the sampling results from 2015 and 2016 represent a substantial increase in the known extent of the structure and provide the boundaries to the area considered to represent the exploration potential.

Whilst the 2016 sampling profile suggests decreasing grade down-dip, it is possible that the sampling deviated off-structure as a result of the terrain and increasing amounts of scree obscuring the structure. Further work is required to confirm the presence of the structure and identify any additional continuity down-dip.

## 8.6 Underground Geological Assessment

### 8.6.1 Introduction

The distribution of gold mineralisation at Nalunaq is historically thought to relate to three ore shoots within the MV structure that plunge towards the east-northeast. This interpretation seems to be mainly based on underground chip sampling results and the fact that many of the drives end in low grade material, thus providing boundaries to mineralisation. In 2016, SRK ES undertook a programme of geological investigation that focussed on such areas where abrupt decreases in grade are observed. The aim of this was to better understand the controls on mineralisation, whether there could be other reasons for decreased grade, and what the implications of this were for continuation of mineralisation in the MV structure further along strike from the current mine excavations.

### 8.6.2 Work Completed

Two phases of geological investigation were undertaken in late June/early July and in mid-August 2016 respectively. Thirty drives were visited in the upper parts of the South Block and throughout the Target and Mountain Blocks. Access was not possible in most of the South Block due to flooding up to 275 masl. In some areas, particularly in upper parts of the Target Block, it was not possible to access drives due to unsafe ground conditions resulting from pillar mining and large spans of unsupported hanging wall. Also, some drives were not accessible due to them being filled with scrap, waste rock or gravity tailings from bulk sampling. The north-eastern part of the Target Block from the 350 Level downwards cannot be entered due to it being filled with tailings from the cyanide processing plant.

Geological and structural observations and measurements were made in all areas inspected. The results of this have contributed to a new structural interpretation for the project.

### 8.6.3 Observations of Faulting in Low Grade Drives

Priority areas for assessment were those drives that entered low grade areas, as suggested by historical exploration and production rock chip sampling, with the aim of determining whether the ore shoot model was the cause of this, or if there were other reasons.

It was found in many areas that faulting was observed at or near to the point at which gold grades decreased abruptly. These faults are additional to the main structures known at Nalunaq (e.g. Clay, Your, Pegmatite Faults). Whilst they may have been noted in underground mapping that was undertaken along exploration drives by Crew Gold, they have never been incorporated into the understanding of structure or grade distribution at Nalunaq or included in structural models. The drives continue through these faults at a constant and in many cases the MV structure appears to be lost. Furthermore, the lithologies that the drives pass into beyond these faults show, in SRK ES' opinion, distinct characteristics of FW meta-volcanics (Figure 8-10 and Figure 8-11). It is therefore interpreted that the drives, as a result of faulting and offset of the MV, have deviated from the MV structure and into the FW.

Historical sampling however continued along these drives and appears to have targeted structures or veins in the FW that are parallel the MV but are not mineralised. Such veins are dominated by epidote, quartz and occasionally pink/brown ankerite (Figure 8-12). This is seen, for example, on 350 Level Target Block West. The resultant low grades were then used by previous workers to define the boundaries of ore shoots, on the assumption that it was the MV that had been sampled.

**Figure 8-10 SRK ES interprets these as FW lithologies in a drive that has deviated from the MV structure. The blue lines indicate that they have been marked and sampled as the MV by previous operators. 600 Level Target Block West (source: SRK ES 2016)**

**Figure 8-11 FW lithologies in a stope pillar showing parallel veining/alteration that is typically found below the MV. The MV is probably in the HW rocks above (source: SRK ES 2016)**

**Figure 8-12 Ankerite, epidote and quartz in a FW vein. 350 Level Target Block West (source: SRK ES 2016)**

Such faults are observed at several levels in all of the mining blocks and SRK ES interprets that they can be connected and consequently define faults or fault zones that bound the mining blocks. This is discussed further in Section 24.

Once a drive is ‘off-reef’, it is difficult to swing the drive back onto the correct structure. It is known that drilling of short boreholes from those off-reef areas to confirm the position relative to the MV was recommended by previous mine geologists but this does not appear to have been done systematically.

Deviation of the drives highlights the problem of developing drives in the orebody itself. Whilst it is accepted that this is needed for bulk sampling purposes and has the benefit of generating revenue during development, it is not possible to drill ahead at a practical angle in order to identify changes in the MV position and adjust the direction of the drive accordingly. Surface drilling on a sufficiently regular pattern to achieve the same aim is not realistic at Nalunaq due to the severe terrain. Thus, when developing drives on-reef, any changes in geometry or position can only be identified once they have been passed through. Thus, it is recommended that any exploration of the ground further along strike should be done by drilling from deep footwall drives that will intersect the MV in a regularised pattern, as described in Section 25.1.

***Conclusion***

SRK ES’ interpretation implies that the ore shoot model may not be correct. Whilst the possible presence of grade channels within the MV orebody is not discounted, the model has relied on the assumption that all the western reef drives were on the structure but were in a low grade material. In SRK ES’ opinion, the MV has in fact been vertically displaced by faults or zones of faults that contribute incrementally to the offset, and a barren/low grade parallel structure was sampled instead. This would mean that the MV mineralisation may still be present but located in the ‘hanging wall’ above the existing drives, potentially by a short distance. Thus, continuity further along strike from the current excavations is possible.

***Supporting evidence in historical data***

With the above interpretation in mind, SRK ES has returned to previous reports from the exploration drives that were excavated by Crew Gold in the early 2000s. In the 2002 report (Crew Gold, 2002) it was stated that the 300 Level drive had deviated into the footwall, that positive results were obtained when attempting to correct the drive, and that this was a systematic problem in several areas of the mine. Some extracts from this report are provided below. It seems that there was knowledge of this problem early on in the mine's history, but the importance of potentially small structural offsets on additional faults to those recognised as, for example, the Clay Fault or Your Fault, does not seem to have been factored into exploration or development for the rest of the operational period.

From page 21, Nalunaq Adit Report 2002 (Crew Gold, 2002):

***<u>300-Level. Southern Block. West (S300W)</u>***

*During the 2001 programme a strong, rich vein was followed for the initial portions of this drift, however towards the end a low-grade zone was encountered, and eventually the structure was lost. Again drilling ahead, and this time above the workings, showed a strong, high-grade structure (NQ1 194 g/t over 0.3 m). Variography modelling indicates that there is a strong E-W trend in ore shoots seen in the Target Block, and, based on the supposition that the Pegmatite Fault has simply dissected the vein post-mineralisation, this trend was applied to the S300W. The planned extension of the S300W was 150 m in order to intersect this ore shoot. The S300W was subsequently extended by 135 m, with the first 45 m considered to be off structure. A test-hole, taken in the south wall at face 65, returned assay results of 162 g/t which shows that the drift was in the footwall of the vein at this point. Resue mining was also conducted in this drift once a well-developed quartz-bearing structure was encountered, after the initial problems in the T300E had been corrected the drift size was kept under better control along this level.*

From page 29, Nalunaq Adit Report 2002 (Crew Gold, 2002):

***<u>Recommendations</u>***

*In several areas of the mine, the development is considered to have diverged from the MV structure. Where the MV structure thins to a narrow calc-silicate alteration zone without quartz, it becomes difficult to correctly identify due to the presence of many similar horizons. In some places the mineralization may jump from one horizon to another making it hard to predict where the MV may reoccur. When contouring drill data, as current drill spacing is often 50-100 m, contours may not adequately represent localized variations in vein orientation such as splaying or fault displacement. Weak structures, no matter how weak, if considered as the MV structure are followed with the expectation that they will soon develop into a stronger structure. As can be seen by the amount of development from this year's programme, which missed the mineralised zone, a remedy must be found. Two invaluable tools currently not available to the geologists are highly recommended for future use. These are a small diamond drill for underground drilling and a more rapid assaying method. Both of these would both help to determine whether a structure at the working face is the proper MV (which generally has a background of 2 g/t) or whether there is a better mineralised structure either above or below in the package.*

### 8.6.4 Main Vein Dip

Most published work for Nalunaq states that the MV dips at an average of 36° towards the southeast. SRK ES recorded a range of dips of between 27° and 56° and an average of 38° but with very consistent strike towards the southeast. The steepest dips are observed on the northern sides of the Mountain Block, whilst shallower dips are observed in the significant high grade area in the western (upper) parts of the Target Block. This may be in contrast with findings from Bell (2016) who interpreted that higher grades occur in more steeply dipping area. Indeed, a comparison of the stope grades estimated by Crew Gold against the dip of the MV shows a slightly negative correlation (Figure 6-17).

### 8.6.5 Interpretation of On-Reef/Off-Reef Drives

Following the programme of underground geological assessment, SRK ES interprets that 18 of the 30 strike drives that were accessible for inspection have deviated from the MV structure and have ended 'off-reef'. It is possible that the MV continues beyond these drives but at a different elevation, and sometimes this may be only a short distance from the drive. A summary of the drives inspected and whether they end on the MV or off it is provided in Table 8-1, and shown on the mine plan in Figure 8-13. It should be remembered that the majority of the South Block has not yet been assessed in this regard due to it being flooded.

**Table 8-1 Summary of drives visited and whether they end 'on-reef' or 'off-reef'**

| Drive | End of drive | Comments |
|---|---|---|
| **South Block** | | |
| 300 L Drive W | Off-reef | Off-reef due to faulting and access to end blocked |
| 300L Drive E | Off-reef | Off-reef due to faulting |
| 310L Drive W | Off-reef | Off-reef due to faulting |
| 310L Drive E | On-reef | |
| 320 L Drive W & E | | No access (full of scrap) |
| **Target Block** | | |
| 350 L Drive W | Off-reef | Off-reef due to faulting |
| 350 L Drive W | Off-reef | Confirmed off-reef poor development combined with pinching and swelling |
| 360 L Drive W | On-reef | |
| 390 L Drive W | On-reef | |
| 400 L Drive W | Off-reef | Off-reef due to faulting |
| 410 L Drive E | On-reef | MV frozen to or just inside HW |
| 520 L Drive W | On-reef | End poorly developed ('reef wandering') |
| 530 L Drive W | On-reef | Thin MV, abundant biotite, some VG |
| 540 L Drive W | On-reef | |
| 550 L Drive W | On-reef | |
| 560 L Drive W | Off-reef | End of drive off-reef due to faulting (reef in HW of drive?) |
| 570 L Drive W | Off-reef | End of drive off-reef due to faulting (reef in HW of drive) |
| 580L Drive W | Off-reef | End of drive is off-reef (reef in HW of drive) |
| 580L Drive W | Off-reef | |
| 580L Drive E | Off-reef | End of drive off-reef (reef in HW of drive) poor development |
| 600 L Drive W | Off-reef | Drive deviates after aplite-exploited faults and poor development. |
| **Mountain Block** | | |
| 600 L Drive E | Off-reef | Cut by fault |
| 600L Drive W | On-reef | Thin |
| 620 L Drive W | Off-reef | Drive is off-reef after a fault next to last stope |
| 630 L Drive W | Off-reef | Off-reef after fault with clay gouge |
| 640 L Drive W | On-reef | Thin reef, MV represented as a shear very little quartz no TG |
| 670 L Drive W | On-reef | MV represented as a shear but VG present |
| 680 L Drive W | On-reef | Drive full of broken ore. MV represented as a shear but has not been sampled |
| 690 L Drive W | Off-reef | Reef disturbed by small faults |
| 700 L Drive W | Off-reef | Off-reef due to poor development – lost reef (reef in HW of drive) |
| 720 L Drive W | Off-reef | Off-reef at end of drive after aplite dyke 070/70°S |
| 727 at end of ramp | Off-reef | Off-reef (in HW) |

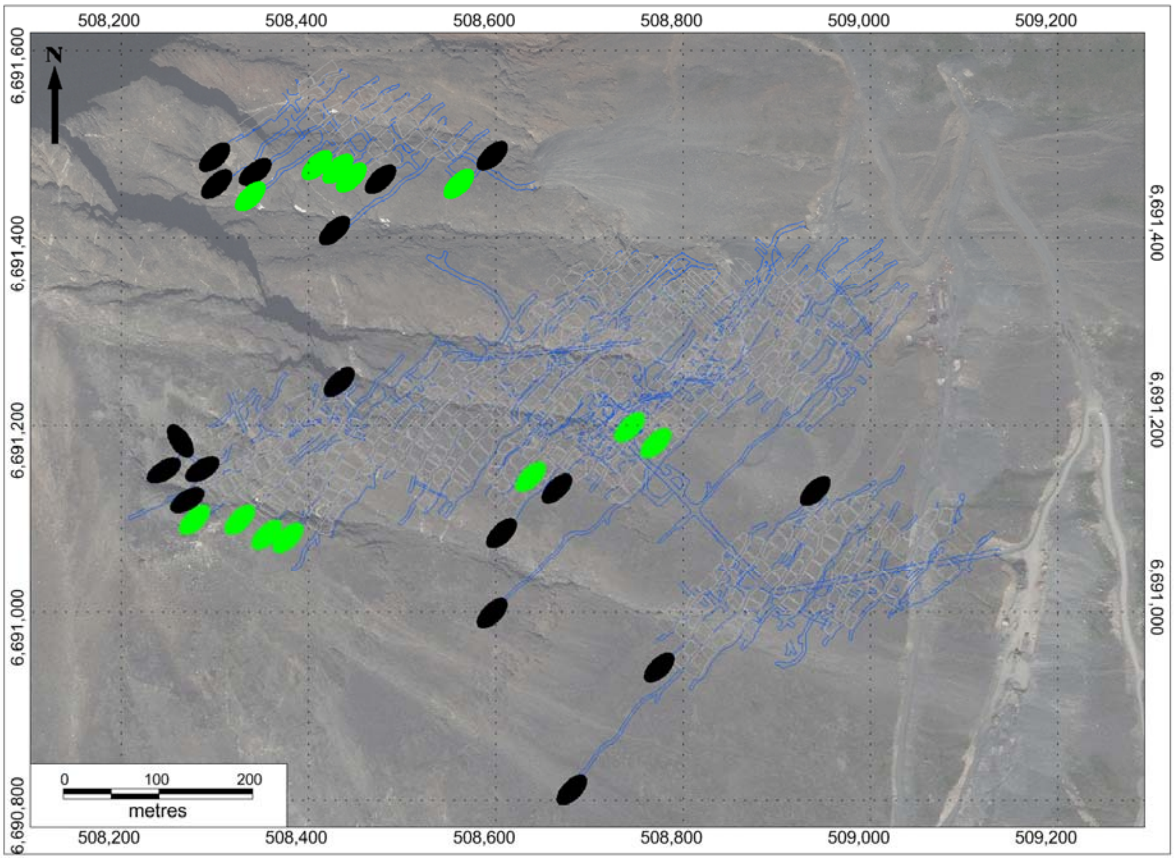


**Figure 8-13 Summary map showing drives accessed and interpretation of whether they end on-reef (green symbols) or off-reef (black symbols). Source: SRK ES 2016**

## 8.7 Metallurgical Sampling

In order to obtain samples for future metallurgical testwork, Nalunaq A/S took two large samples from two parts of the mine during the 2016 field season. Whilst head grades have been assayed for these samples, metallurgical testwork has not yet been commissioned. The sampling has allowed Nalunaq A/S to retain a stock of material in case testwork is needed to confirm the performance of any third-party processing plants that may be used in future. This work also has the benefit of providing representative gold grades that could be compared to grades in the historic database for validation purposes.

### 8.7.1 Sampling locations and methods

Material was sampled from two locations:

- **300 Level East, South Block:** The sample was taken from the tops of pillars on the western and eastern sides of stope number 290-15 (Figure 8-14 and Figure 8-15), with the majority taken from the western side.
    - o Total amount sampled: 209.10 kg;
    - o Previous chip sampling in this area indicates grades of between 24.00 g/t and 122.00 g/t gold on the western side of the stope, and between 6.44 g/t and 92.60 g/t gold on the eastern side;
- **310 Level West, South Block:** The sample was taken from the tops of pillars on the western (Figure 8-17) and eastern sides of stope number 300-18. Material from the HW and MV was taken from the western side, whilst the FW was sampled on the eastern side.
    - o Total amount sampled: 201.60 kg;
    - o Previous chip sampling in this area indicates grades of between 6.30 g/t and

55.50 g/t gold on the western side of the stope, and between 28.60 g/t and 78.00 g/t gold on the eastern side.

In both cases, the samples were taken such that they were representative of a true mining width of 1.5 m. Thus, they include material from the HW, MV and FW, thereby emulating the dilution that may occur during normal mining operations.

Sampling lines were marked on the walls using spray paint (Figure 8-14 and Figure 8-15) and, in the 300 Level, a series of parallel cuts were made using a petrol-driven diamond-bladed rock saw (Figure 8-16). Material between the cuts was then broken out using an electrical rock breaker or a hammer and chisel.

Due to insufficient ventilation, it was not possible to use the saw on the 310 Level. Instead, an area was selected where rock could be barred off and broken up manually whilst still allowing a representative sample to be taken.

The sampled material was placed in plastic barrels for dispatch. The barrels were marked with the locations from where the material was sampled (level number, stope number, and east/west).

It is notable that localised areas of abundant visible gold were encountered in the MV whilst sampling above stope 290-15 on its western side (Figure 8-18). This was found in proximity to feldspathic minerals in the vein and is intimately associated with biotite.


**Figure 8-14 Marked-up sample location on the 300 SB East Level at the top of stope 290-15 (western side) with metre rule for scale (source: SRK ES 2016)**

*The sample line is staggered to ensure representative amounts of each unit*


**Figure 8-15 Marked-up sample location on the 300 SB East Level at the top of stope 290-15 (eastern side) Source: SRK ES 2016**

*This was sampled to ensure sufficient material was taken for the footwall in this area, making up for the short footwall intersection in the western sample as shown in Figure 8-14*

**Figure 8-16 Cutting out the sample using a diamond-bladed rock saw. Note the parallel cuts in the hanging wall (source: SRK ES 2016)**

**Figure 8-17 Sample location on the 310 SB West Level at the top of stope 300-18 (western side). Source: SRK ES 2016**

*The blocky nature of the rock here allowed material to be barred off rather than sawn. Only the HW and MV are exposed; the FW was sampled on the eastern side of the stope*

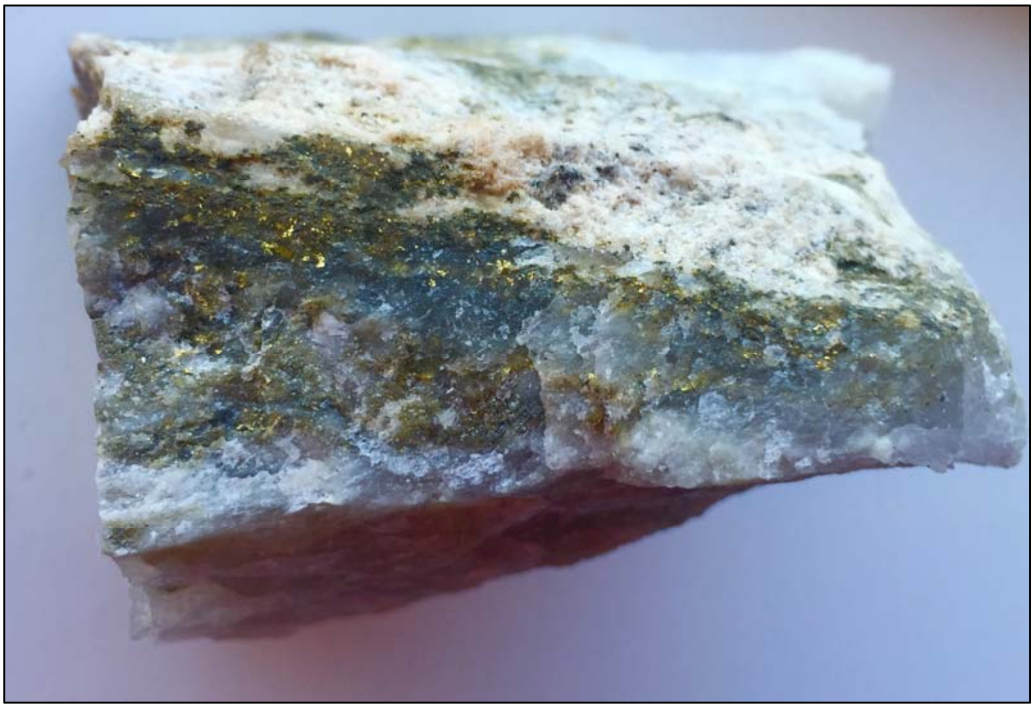

**Figure 8-18 Example of abundant coarse gold encountered in the MV whilst sampling above stope 290-15 on the eastern pillar. The face shown is 6 cm long (source: SRK ES 2016)**

### 8.7.2 Sample Results

Samples were dispatched to SGS Minerals Services UK Ltd. for calculation of head grades. The entire sample was crushed to 3.35 mm, 1 kg was split off and further crushed to 1 mm. This was then pulverised to 80% passing 75 microns and assayed using a screened metallics fire assay with 106 micron mesh size. The results are presented in Table 8-2. This gives grades for gold and silver and their distribution in the oversize (+106 micron) and undersize fractions.

**Table 8-2 Head grades of large samples taken from stopes 290-15 and 200-18**

| Sample ID | Original sample weight, kg | Feed weight for analysis, g | Fraction | Wt. % | Assay Au g/t | Assay Ag g/t | Dist. Au % | Dist. Ag % |
|---|---|---|---|---|---|---|---|---|
| 290 15EW | 209.10 | 1.0006 | Oversize | 3.39 | 1,529.00 | 225.30 | 35.18 | 51.81 |
| | | | Undersize<br>Undersize dup | 96.61 | 99.07<br>98.48 | 7.30<br>7.40 | 64.82 | 48.19 |
| | | | **Sample** | **100.00** | **147.23** | **14.73** | **100.00** | **100.00** |
| 300 18 | 201.60 | 1.0002 | Oversize | 2.93 | 625.00 | 30.60 | 46.91 | 37.33 |
| | | | Undersize<br>Undersize dup | 97.07 | 19.31<br>23.38 | 1.60<br>1.50 | 53.09 | 62.67 |
| | | | **Sample** | **100.00** | **39.03** | **2.40** | **100.00** | **100.00** |

Very significant gold grades are present, and this was to be expected for sample 290 15EW on account of substantial amounts of coarse visible gold observed whilst sampling (Figure 8-18). The samples also contain a substantial proportion of coarse gold with a small majority of the gold in sample 290 15EW being in the oversize fraction.

***Comparison to historic sampling***

SRK ES has compared the results of these large samples against the gold grades in historic underground chip samples that were taken on the same faces. The historic samples have been selected to represent the lateral spread of sampling in 2016. Although these are close to the 2016 samples (within 1 m), they may not directly overlap. These are compared in Table 8-3.

Sample 300 18 shows an extremely close match to historic sampling grades. By contrast, sample 290 15EW is much higher grade and illustrates the difficulty of repeatable sampling in high nugget effect gold deposits such as Nalunaq. It is possible that the 2016 samples are more representative on account of their large mass, the careful inclusion of equal amounts of HW wall and FW rocks and the fact that a representative split was taken of the whole sample for analysis.

**Table 8-3 Comparison of grades in 2016 large samples compared to historic rock chip samples on the same faces**

<table>
<tr><th colspan="3">2016 Sampling</th><th colspan="4">Historic Rock Chip Sampling</th></tr>
<tr><th>Sample ID</th><th>Sample length, m</th><th>Gold grade, g/t</th><th>Sample ID</th><th>Sample length, m</th><th>Gold grade, g/t</th><th>Length weighted average gold grade, g/t</th></tr>
<tr><td rowspan="6">290 15EW</td><td rowspan="6">1.50</td><td rowspan="6">147.23</td><td>UGS S300E-01</td><td>0.73</td><td>122.00</td><td rowspan="6">61.85</td></tr>
<tr><td>UGS S300E-W02</td><td>0.94</td><td>24.00</td></tr>
<tr><td>UGS S300E-02</td><td>0.72</td><td>73.80</td></tr>
<tr><td>UGS S300E-05</td><td>0.70</td><td>92.60</td></tr>
<tr><td>UGS S300E-06</td><td>0.50</td><td>6.44</td></tr>
<tr><td>UGDS 111941</td><td>0.60</td><td>43.90</td></tr>
<tr><td rowspan="4">300 18</td><td rowspan="4">1.50</td><td rowspan="4">39.03</td><td>UGDS 112683</td><td>1.28</td><td>6.30</td><td rowspan="4">40.94</td></tr>
<tr><td>UGDS 112684</td><td>1.11</td><td>55.50</td></tr>
<tr><td>UGDS 113907</td><td>0.99</td><td>28.60</td></tr>
<tr><td>UGDS 112688</td><td>1.09</td><td>78.00</td></tr>
</table>

## 8.8 Assessment of Remnant Mining Areas

### 8.8.1 Introduction

SRK ES' studies in 2015 identified the possibility of 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. Nalunaq A/S was interested in examining these areas in more depth in order to assess their potential as an opportunity for small-scale mining that could generate some cash flow alongside exploration for extensions of the main mineralised structure at Nalunaq. This work was therefore a main focus of the 2016 field season and this section reports on the outcomes of an assessment that was undertaken between 29 June and 6 July 2016.

### 8.8.2 Assessment Objectives

The main objectives of the assessment were to confirm the level of confidence in the desktop review of remnant mining areas produced in 2015 and determine whether they exist, why they exist, and if they could be practically and safely mined.

Potentially mineable areas were identified and prioritised for assessment via preparatory work including examination of the mining records and resource model. Note: to qualify as an area of interest for potential mining, SRK ES considered that the area must show fair grade and structural continuity with a gold grade above 10-15 g/t gold once diluted to a minimum mining true width of 2.0 m. Areas that showed such potential were identified prior to the site visit by interrogation of the historical mining records, anecdotal evidence of remaining stopes, and modelled geological data that was compiled in 2015. They are highlighted in red in Figure 8-19, and provided priority areas to be visited during the 2016 site visit. At the time of the visit, the South Block was flooded to an elevation of about 275 m, so it was not possible to access any areas deeper than this.

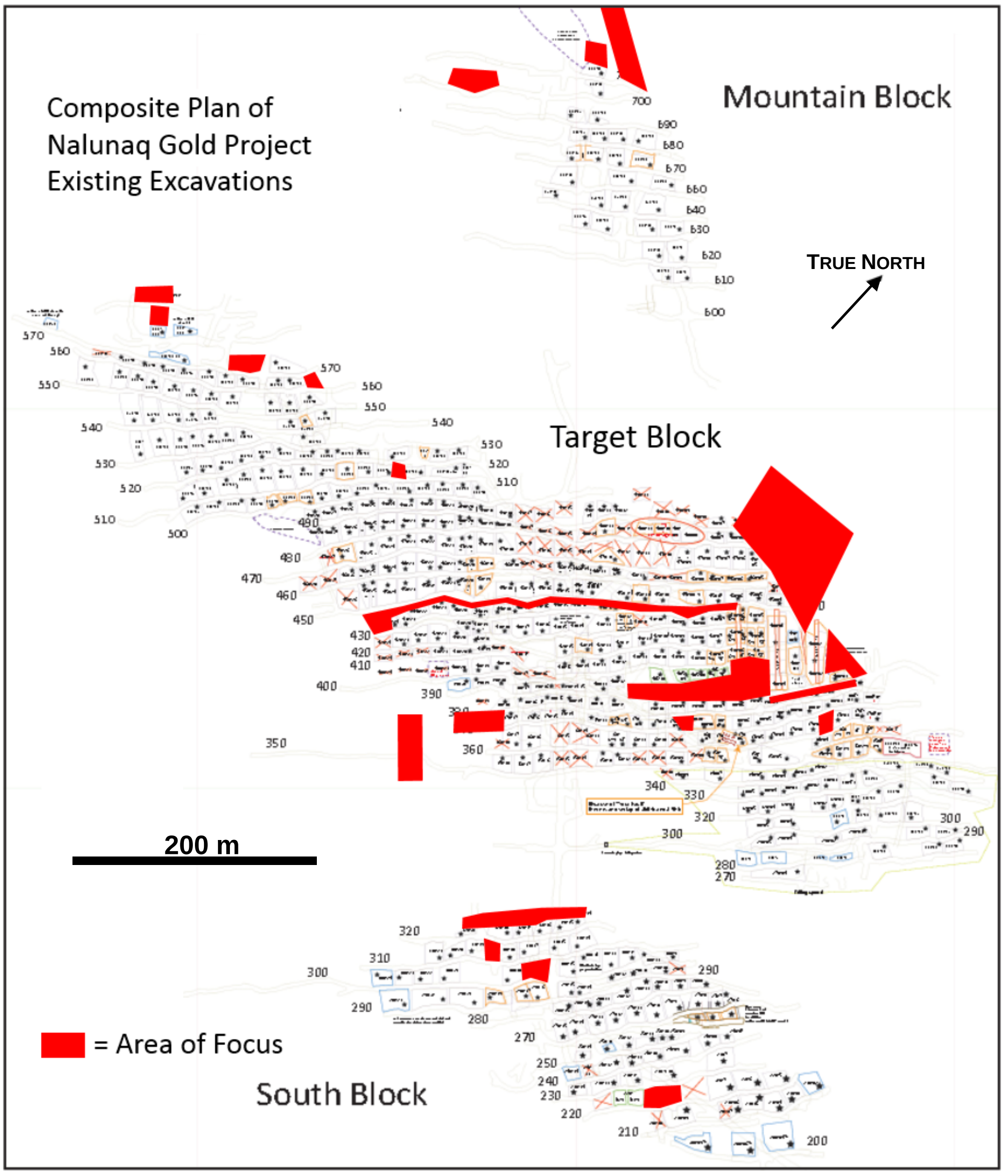


**Figure 8-19 Nalunaq stope map (plane of reef view) showing areas of interest for inspection in 2016 (source: SRK ES 2016)**

The following sections describe observations and commentary specific to the practicalities of mining the areas of interest. The areas of interest are labelled for cross reference in Figure 8-20 and Figure 8-21.

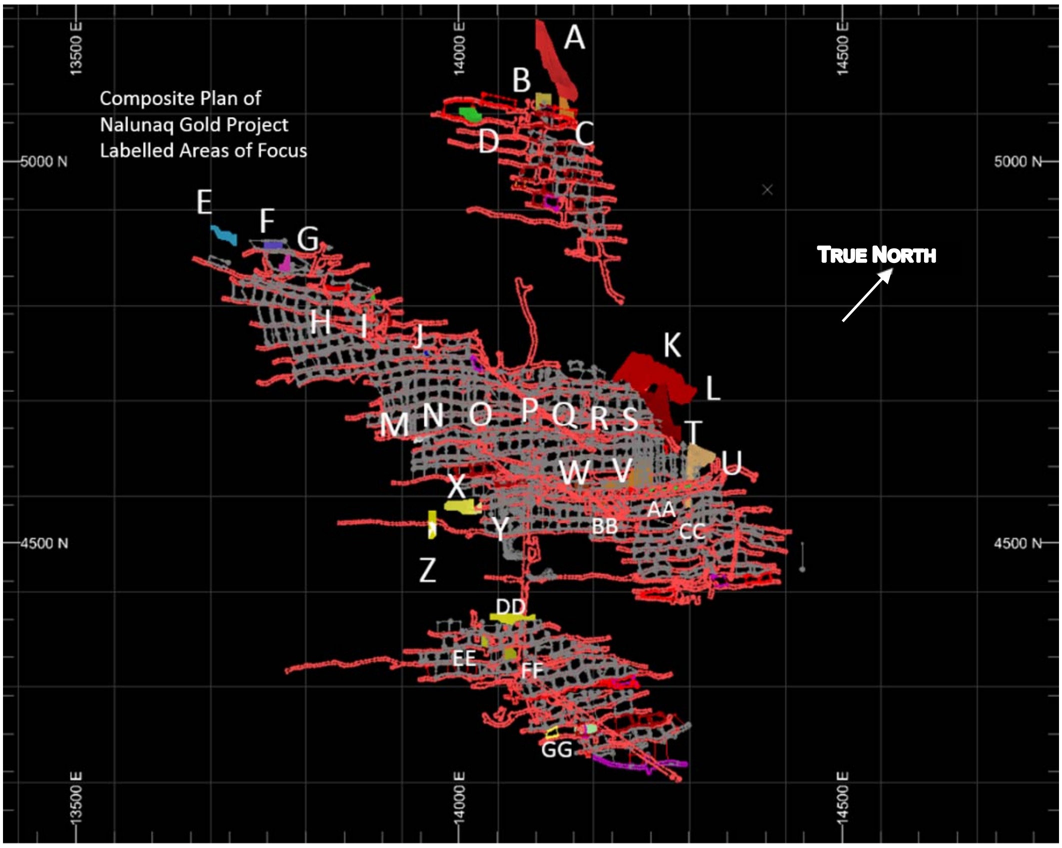


**Figure 8-20** **Labelled areas of interest with existing excavations shown (source: SRK ES 2016)**

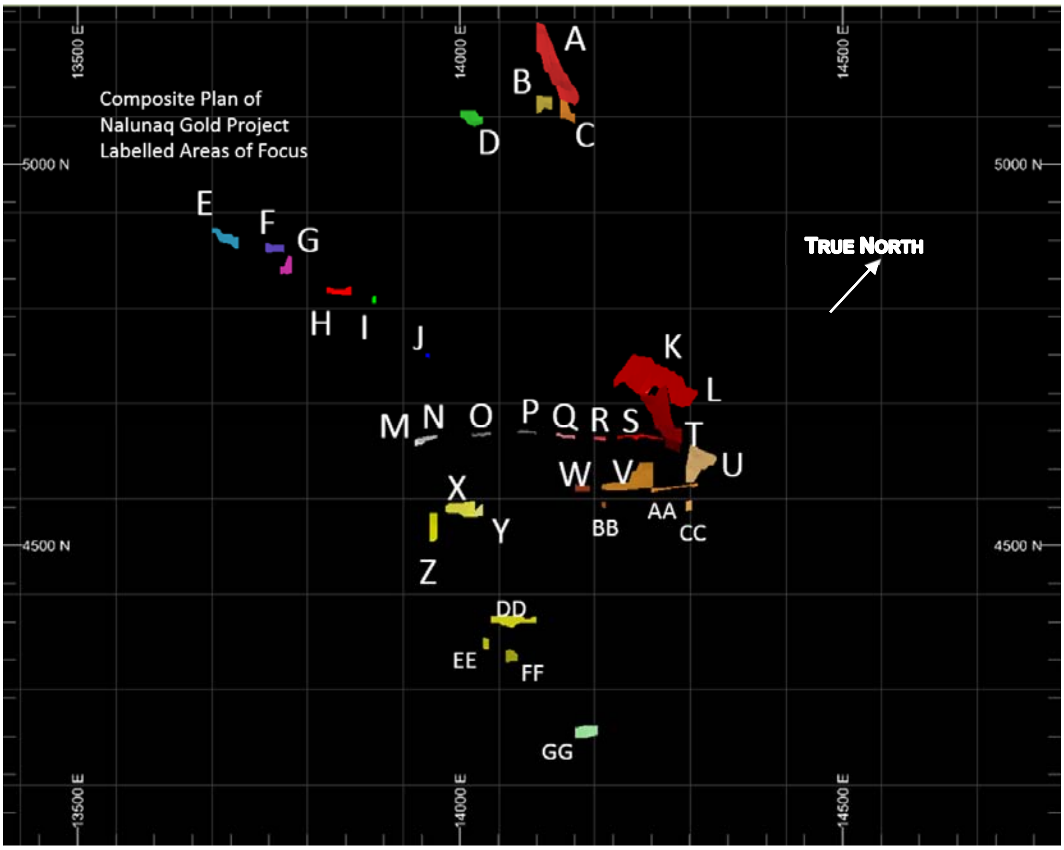


**Figure 8-21** **Labelled areas of interest shown without existing excavations for clarity (source: SRK ES 2016)**

### 8.8.3 Mountain Block

***Area A – Above 720 Level***

- This area is in virgin ground, thus could be mineable from underground with continuation of the Mountain Block ramp and strike drives at higher elevations;
- Mineralisation here is close to surface, but surface mining appears impractical as the terrain steepens above the 500 Portal. Also, although not confirmed, it may be difficult to obtain a permit for surface mining due to environmental and/or aesthetic sensitivities;
- The location of the outlined area follows a high grade trend in the resource model. However, the trend in the resource model does not follow a continuation of the apparent trend in the Mountain Block (i.e., not aligned with existing excavations). The resource model may be extrapolating historic high grade sample data retrieved along the vein surface outcropping. Thus, the location of the outlined area should be modified to continue along the grade trend in the Mountain Block and definition drilling should be completed from the footwall to confirm the location of the potentially mineable area and further improve confidence in the resource model above 720 Level.

***Area B – 720 Level***

- On inspection, this area has been mined but the excavation has not been recorded.

***Area C – 720 Level***

- This area is mineable with a bypass drift off the ramp to avoid the open stopes above and below 720 Level. The size of the area should be increased based on historic higher grade chip sample data at the eastern extremity of the level.

***Area D – 700 Level***

- On inspection, much of this area has been mined but the excavation has not been recorded;
- The remainder of this area outlines a high grade zone in the resource model, but the main quartz vein appears to pinch out at the extremities of the excavation. Phase II observations suggest that the mineralised structure is still present and is evidenced by significant biotite alteration indicating that hydrothermal fluid flow has occurred (and also resulting in poor hanging wall conditions). It is also possible that the resource model may be extrapolating historic high grade diamond drill and chip samples.

***Other Areas***

- Based on site observations and historic chip sampling, there are areas between 720 to 690 Levels along the eastern ends of the levels that appear mineable via bypass drifts. The ground appears blocky in this area most likely due to its proximity to surface. It is anticipated that additional ground support than historically installed would be required in these areas. These areas are identified as Areas HH and II in Figure 8-22 and Figure 8-23.

### 8.8.4 Target Block

***Area E –West of 600 Level***

- The outline of this area is based on a high grade zone in the 2015 resource model. However, based on the historic difficulty in locating the vein in this area, it is doubtful that the high grade zone is as depicted. Until confidence in the location of the vein and continuity of grade is improved (via diamond drilling or strike drive development), this area should not be considered potentially mineable.

***Area F – 600 Level***

- This area is mineable. A blind raise has already been excavated in the area that would facilitate excavation.

***Area G – 580 Level***

- Based on site observations, it appears that locating the vein during previous operations in this area was quite difficult, possibly as a result in changes in geometry of the Main Vein that are poorly defined by exploration. Multiple passes of attempted strike drives splay in several directions resulting in large intersections without the installation of increased ground support. Based on the lack of confidence in the vein location and poor ground conditions, this area should not be considered potentially mineable. It is possible that footwall drive development to provide diamond drill platforms could be used to explore the unmined area to the west.

***Area H – 570 Level***

- This area is mineable. Protection from the down dip open stopes along the strike drive would be required to prevent entry by personnel and equipment. Protection could be via precast concrete barriers or a metal fence secured to the floor and back.

***Area I – 560 Level***

- This area is mineable with a bypass drift off the level access to avoid the open stopes above and below 560 Level.

***Area J – 510 Level***

- This area is mineable. Protection from the down dip open stope would be required to prevent entry by personnel and equipment. Ground support should be reinstalled in the back.

***Area K – 490 Level***

- Based on site observations and historic chip sampling, it appears that locating the vein in Area K was quite difficult due structural disturbance. Also, there appears to be a discrepancy between the resource model and the topographic model. Until confidence in the location of the vein, continuity of grade, and location of surface is improved (ideally via diamond drilling from footwall drive development), this area should not be considered mineable.

***Area L – 490 to 450 Levels***

- This area is not mineable from underground due to extensive exposure of the strike drives to up dip and down dip open stopes and poor ground conditions. The area is considered unsafe.
- The Main Vein is very close to surface in this area, and some form of mining from surface may be possible. However, permitting for surface mining may be difficult due to environmental and/or aesthetic sensitivities (not confirmed at this time).

***Area M, N, O, and P – 440 Level***

- On inspection, this area has been previously mined but the excavations have not been recorded.

***Area Q, R, and S – 440 Level***

- Poor ground conditions on the 450 and 440 Levels did not permit a thorough examination of these areas. However, these areas should be mineable via bypass development to access 440 Level. Based on historic chip sampling, the areas should be combined to better represent a more practical mining shape.

***Area T – 430 Level***

- The historic Alimak mining resulted in overbreak and large spans resulting in poor ground conditions. Thus, this area is not be considered mineable.

***Area U – 400 Level***

- This area is mineable with a bypass ramp off the 400 Level sumps to avoid poor ground conditions within the area of Alimak stoping.
- Again, the Main Vein is close to surface in this area and surface mining may be possible subject to permitting by the Greenland Government.

***Area V – 400 Level***

- On inspection, this area has been previously mined but the excavations have not been recorded.

***Area W – 400 Level***

- This area is mineable. Protection from the down dip open stopes along the strike drive would be required to prevent entry by personnel and equipment. Protection would best be afforded by filling the down dip open stopes with waste rock. Based on chip sampling, the extent of this area of interest could be increased to the east.

***Area X and Y – 370 Level***

- Poor ground conditions on 380 and 370 Levels did not permit access to these areas for assessment and these areas are not mineable due to the extent of strike drives exposed to poor ground conditions and up dip and down dip open stopes.

***Area Z – 350 Level***

- Based on site observations and historic chip sampling, it appears that there may only be minimal localised high grades directly west of the Clay Fault with the resource model extrapolating historic high grade sample data. Also, there are many up dip and down dip open stopes along the strike drive that would require protection to permit safe access for mining. Thus, this area is not considered mineable;
- Despite the above, the localised nature of increased grades in this level may reflect an area where the strike drive has returned to the mineralised zone for a short distance having deviated ‘off-reef’. SRK ES considers that this may be a possibility in several areas. Hence, whilst the current data does not show mineable areas, new exploration may indicate that the main mineralised zone is close to current excavations. This however represents an exploration opportunity rather than a near-term mining option.

***Area AA – 390 Level***

- Due to poor ground conditions from Alimak stoping on 400 Level and the open stoping on 390 Level, this area cannot be mined safely or practically and the work required to make it safe is not economically viable.

***Area BB – 370 Level***

- On inspection, all material that can be practically mined on either side of the fault in this area has been previously excavated.

***Area CC – 370 Level***

- This area is mineable. Protection from the down dip open stope would be required to prevent entry by personnel and equipment. Ground support should be reinstalled in the back.

***Other Areas***

- A lower grade area at the eastern extremity of 350 Level was found to be incorrectly recorded as being mined. Access to this area requires scrap removal and spot reconditioning in the exploration drift off 350 Portal. Protection from the down dip open stope would be required to prevent entry by personnel and equipment. This area is identified as Area KK in Figure 8-22.

### 8.8.5 South Block

***Area DD – 320 Level***

- On inspection, this area was previously excavated up to the Pegmatite Fault.

***Area EE – 310 Level***

- This area is mineable. Ground support should be reinstalled in the back.

***Area FF – 300 Level***

- This area is mineable. Protection from the down dip open stope would be required to prevent entry by personnel and equipment.

***Area GG – 220 Level***

- Flooding below 280 Level did not permit access to this area for assessment. Until the existence of this area and practicality of mining can be proven, this area should not be considered mineable.

### 8.8.6 Pillar Mining

Mineralised material also remains in the mine area in the form of pillars between stopes. Following an assessment of the potential 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. SRK ES observed pillars where extraction had been attempted during their site visit in 2016 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 others 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.

### 8.8.7 Results

Based on the observations from the site inspection, the potentially mineable areas were revised as indicated in Figure 8-22 and Figure 8-23 resulting in approximately 25,000 tonnes grading 22.5 g/t. The tonnage and grade of the potentially mineable areas are presented in Table 8-4.

The areas have been categorised by their perceived ease of mining:

- **Category I** - These areas require the least amount of effort, including those areas where only reconditioning and protection from down dip open stope conditions are required.
- **Category II** – These areas require additional development or bypass development for access.
- **Category III** – These areas must be mined from surface which may be prohibited due to environmental and/or aesthetic sensitivities (not confirmed at this time).

The tonnage and grades listed in Table 8-4 have had 95% mining recovery and 10% pillar loss factors applied and are based on a minimum mining true width of 2.0 m. To account for a lower level of confidence due to potential discrepancies between the block model and historic chip sampling and the actual mountain surface, an additional mining recovery of 50% was applied to Areas A, C, U, HH, II, and L.

**Table 8-4 Resulting tonnage and grade of potentially mineable areas following underground inspection**

| Ease of Mining Category | Area | Tonnage | Grade (g/t) | Contained Gold (oz) |
|---|---|---|---|---|
| **Category I** | F | 1,330 | 22.4 | 955 |
| | H | 1,520 | 25.6 | 1,250 |
| | I | 245 | 37.8 | 300 |
| | J | 165 | 29.6 | 155 |
| | W | 2,265 | 14.0 | 1,020 |
| | CC | 540 | 27.4 | 475 |
| | EE | 605 | 17.4 | 340 |
| | FF | 1,065 | 26.3 | 900 |
| | JJ | 1,210 | 9.6 | 375 |
| | KK | 495 | 7.4 | 115 |
| *Subtotal Category I* | | *9,440* | *19.4* | *5,885* |
| **Category II** | A | 4,515 | 12.3 | 1,780 |
| | C | 1,455 | 13.5 | 630 |
| | S | 1,695 | 24.5 | 1,335 |
| | U | 1,870 | 11.8 | 710 |
| | HH | 1,605 | 10.8 | 555 |
| | II | 830 | 10.0 | 265 |
| *Subtotal Category II* | | *11,970* | *13.7* | *5,275* |
| **Category III** | L | 4,295 | 53.8 | 7,430 |
| *Subtotal Category III* | | *4,295* | *53.8* | *7,430* |
| **Total** | | **25,705** | **22.5** | **18,590** |

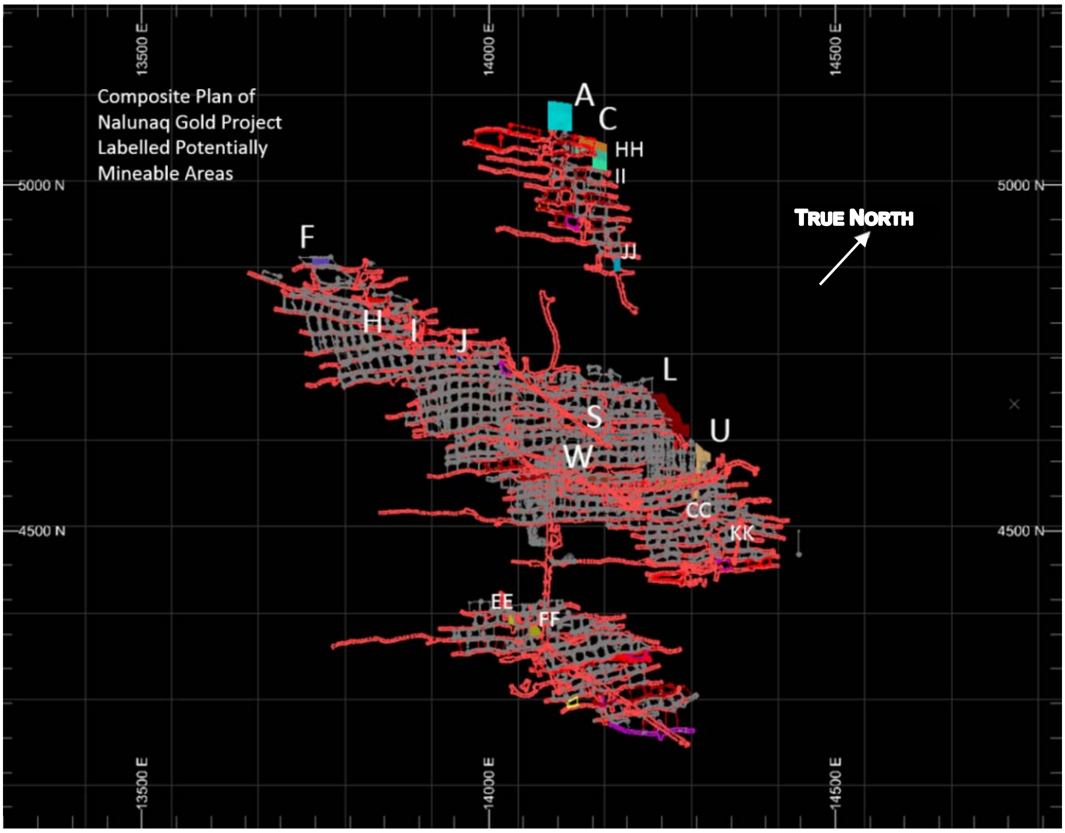


**Figure 8-22** **Resulting potentially mineable areas shown on existing excavations (source: SRK ES 2016)**

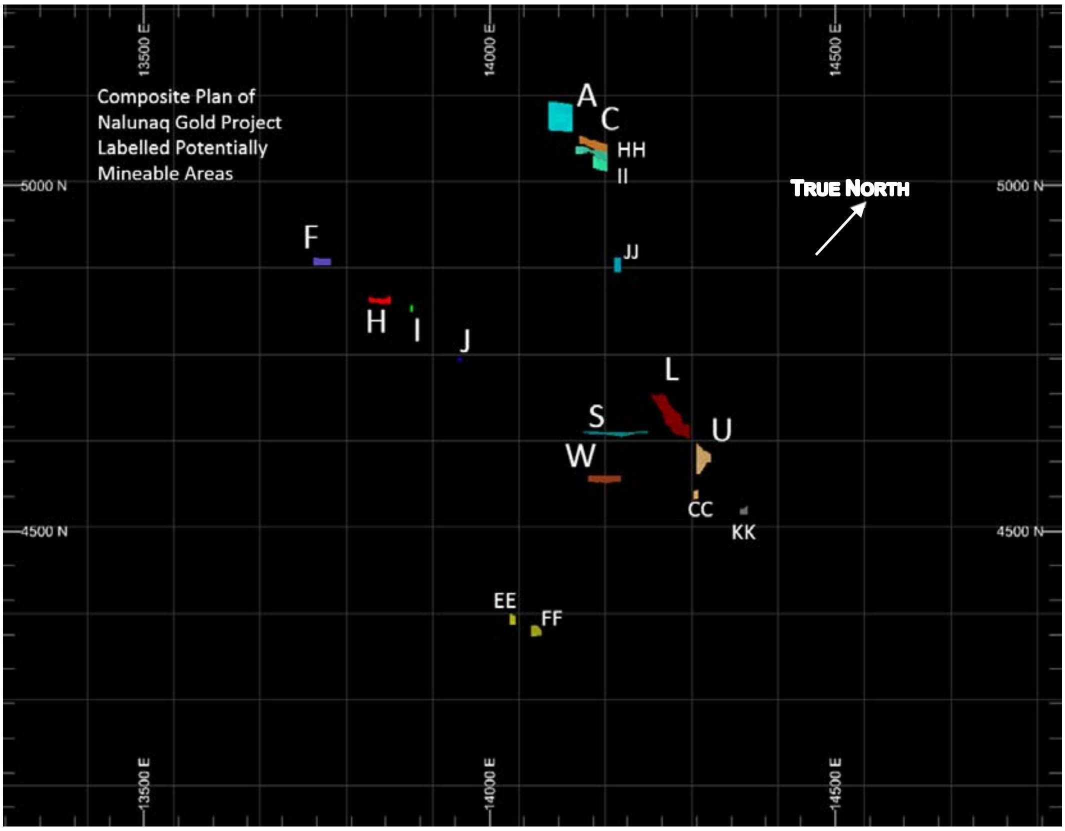


**Figure 8-23** **Resulting potentially mineable areas with existing excavations removed for clarity (source: SRK ES 2016)**

Whether these areas can be extracted profitably is difficult to assess without a fairly lengthy study, but it can be said that there would be substantial site setup and indirect costs (camp, road maintenance, port, management, technical services, etc.) required to support what represents a small scope of mining work.

The Category III areas are relatively large and are high grade; they represent 17% of the tonnage and 40% of the contained gold of the total areas that could be mined, but they must be mined from surface. If this surface mining is not permitted and these areas are removed from the mining inventory, then the economics are likely to be negative.

### 8.8.8 Conclusion

Based on observations from SRK ES' site visit between 29 June and 6 July 2016, there is estimated to be approximately 25,000 tonnes of remnant material. Although more material was initially highlighted in previous studies (SRK ES, 2015), discrepancies between the resource model and mining records and what was actually observed discounted many of these areas.

Accurate estimates of the cost of recovering the 25,000 tonnes have not been prepared but there are likely to be substantial amounts of site setup and associated indirect costs at the remote Nalunaq site, as well as the cost of new underground development to access mining areas. Therefore it is expected that profitable recovery of these mining areas as a standalone project is unlikely.

On a positive note, there is exploration potential at the Nalunaq gold project. Continued effort on exploration, including diamond drilling, may result in the discovery of new zones of mineralisation similar to that mined previously at Nalunaq. If so, then recovery of the 25,000 tonnes of material should be reassessed in the context of being completed concurrent to an advanced underground exploration programme or production, thereby taking advantage of the infrastructure and logistics that are in place for the main effort of operations.

## 8.9 Underground Sweepings Assessment

### 8.9.1 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 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. Indeed 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, and due to 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 of 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 a number of locations and determine their head grade in order to assess the potential for future recovery and processing.

### 8.9.2 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 8-24) and produced a large quantity of material that was then sampled in three places to provide a composite sample. A 0.5 $m^2$ pit in the same thickness of material on the 310 SB Level (Figure 8-25) provided sufficient material and it is suggested that this would be the most efficient sampling method for further work.

**Figure 8-24 Sampling trench dug across 22 cm thick sweepings in the 300 SB Level drive below the #15 stope (source: SRK ES 2016)**

**Figure 8-25 Sampling pit dug in 22 cm thick sweepings in the 310 SB Level below the #18 stope (source: 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 $m^2$ area Figure 8-26.

**Figure 8-26 Sweepings sampling in 1 $m^2$ of 5 cm thick material on the 310 SB Level below the #18 stope with material scraped (left image) and then the surface swept (right image). Source: SRK ES 2016**

The sweepings samples were dispatched to SGS Minerals Services UK Ltd. for preparation and determination of their head grade using the same preparation and analytical methods as for the metallurgical samples.

### 8.9.3 Sample results

The head grades for the sweepings samples are summarised in Table 8-5. The analytical method involves screening the crushed and pulverised samples at 106 microns in order to recover and analyse coarse gold. Therefore, grades for the over- and undersize fractions are provided, as well as the percentage of gold reporting to the coarse fraction.

**Table 8-5 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 from by Crew Gold and the block model that SRK ES has developed for resource estimation purposes. This is summarised in Table 8-6.

**Table 8-6 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 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.

### 8.9.4 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 $m^3$ and 3,500 $m^3$ 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 a number of untested assumptions. The estimate is likely to change following a programme of sweepings thickness measurement through the mine and systematic sampling for head grade analysis. This is not considered to be a compliant Mineral Resource estimate in any way.

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. It is known that this is unlikely to be possible 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%.

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 processing plant which may be mineralised (Figure 8-27).

**Figure 8-27 Example of accumulated material, possibly gold-bearing, beneath conveyor belts in the processing plant (source: SRK ES 2016)**

# 9 DRILLING

No drilling has been undertaken by Nalunaq A/S. Details of previous surface and underground drilling are provided in Section 5.2.

# 10 SAMPLE PREPARATION, ANALYSIS AND SECURITY

## 10.1 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 Nalunaq A/S' recent exploration results and future planning by Nalunaq A/S, but is included here since SRK ES is reliant on Dominy (2005) for the 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 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 vast 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.

### 10.1.1 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 micron 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 to five standards in each sample batch.

**Table 10-1 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 10-1). 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 micron 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, or “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.

### 10.1.2 Production Sample Preparation and Analysis

***Nalunaq Laboratory***

During the operational period, a laboratory was located at the Nalunaq camp (Figure 10-1). 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 10-1 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 DIBK and AAS.

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 gold) 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 10-2.

**Table 10-2 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 results (n = 31) seen by Snowden in 2005 were below 0.03 g/t gold, with a single value of 0.07 g/t gold, 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 gold (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).

### 10.1.3 SRK ES Comments on QAQC Procedures

In 2005, Snowden (Dominy, 2005) considered that there were some shortcomings in QAQC procedures at Nalunaq and made a number of recommendations for improvements, as summarised in the following sections. 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.

#### *Field and Laboratory Duplicates*

It was suggested that 1 in 20 field duplicate samples were taken underground to monitor the entire sampling process, and that 1 in 20 duplicate pulp samples were taken to monitor laboratory precision, with results being monitored on a batch-by-batch and monthly cumulative basis. Snowden suggested that a benchmark of 90% of the field and laboratory duplicate results should have a HARD value in the order of ±15%. Where samples fall outside set precision limits a third triplicate assay should be undertaken and spurious results rejected.

#### *Standards and Blanks*

Snowden recommended the use of at least five commercially-produced certified reference materials as standards with grades in the range of 0.3 to 30 g/t gold to give coverage from low-grade, through cut-off, run-of-mine, and high-grade values. Blanks should also be used. Standards and blanks should be inserted at a rate of 1 in 20 samples.

It was recommended that standard control limits should be set to 'warning' at twice the reference material's standard deviation, and to 'action' at three times the standard deviation with 25% of the batch to be re-assayed if the *warning limit* is breached; and all the batch should be re-assayed if the *action limit* is breached. 95% of results should not exceed the action limit for each standard, and where the monthly average bias exceeds one standard deviation all batches for the month should be re-assayed.

***Umpire Laboratory***

It was recommended that the Nalunaq laboratory accuracy should be monitored via the use of an umpire laboratory, with 1 in 20 sample pulps submitted to the second laboratory for assay in exactly the same way as the first. Umpire batches should also have included the same standards to monitor accuracy. Umpire laboratory results should be within 90% ±15% HARD. The umpire laboratory standard data should be within the limits set previously for standards.

***Pulp Screening Tests***

Pulp screening analysis was recommended as a monitor of sample preparation quality. The purpose of this was to detect inefficient pulverisation: if a coarser product is produced, then there is a danger that both fine (e.g. more fine gold encapsulated by host rock) and coarse (e.g. too big to be dissolved) gold will not be taken into solution by the LeachWell solution. It is therefore likely that poorly pulverised samples will have a lower primary grade and a higher residue grade. It was recommended that at least 1 in 15 pulps should be tested with a criterion of 90% mass passing 75 µm.

***Contamination Monitoring***

In addition to the use of standard blanks, it was recommended that the barren material used to clean the pulveriser should be taken for assay on a regular basis, about 1 in 50 samples, to monitor for gold contamination.

### 10.1.4 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.

## 10.2 2015 and 2016 Sampling

### 10.2.1 Surface Samples

All samples taken during surface sampling to identify continuations of the MV on the west and southwest sides of the mountain 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.

***Gold Analysis***

Gold analysis was done by the screened metallic procedure (ALS code Au-SCR24). 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.

***Trace Element Analysis***

Samples 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 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 digestions 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 amount of aplite dykes were encountered which may contain minerals that are more resistant.

***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. 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. SRK ES had requested that ALS record and report the unique identification numbers on receipt of the bags, but this request was overlooked until they had already been removed and discarded. ALS did however retrieve 7 of the 10 tagged cable ties from their refuse and confirmed that all of the bags had been sealed with the same type of cable tie. The numbers on the retrieved cable ties corresponded to numbers that had been dispatched from Greenland, but it is not possible to confirm which bags they had been removed from or the whereabouts of the remaining three tagged cable ties.

***QAQC Procedures – 2015 Programme***

24 samples were taken during the 2015 sampling programme one Certified Reference Material ("CRM") and one blank sample added to the batch before submission to the laboratory. These were added as the 10$^{th}$ and 20$^{th}$ sample in the batch respectively and followed the same sample numbering system as the rock samples.

The certified grade of the CRM was 3.10 g/t gold but the laboratory analysis of 3.67 g/t gold was two standard deviations above this. Since only one CRM was included, it is not possible to determine why a result at 2SD above the certified value was reported or whether this was a single occurrence or part of systematic bias in the laboratory. Nonetheless, for the purposes of this reconnaissance sampling, SRK ES considers that the results can be used for confirming the presence of gold mineralisation.

Blank material was sourced from a stockpile of dioritic construction aggregate in Nanortalik and reported values below the detection limit for gold.

***QAQC Procedures – 2016 Programme***

**Certified Reference Materials**

One type of CRM was inserted three times into the batch of 88 samples, representing 3% of the total samples. The CRM was CDN-G3-3F and had a certified gold grade of 3.10 g/t (2SD = 0.24 g/t). The assay results of this CRM are shown in the context of the certified grade and the CRM's 2SD boundaries in Figure 10-2. All assay results fall within accepted limits.

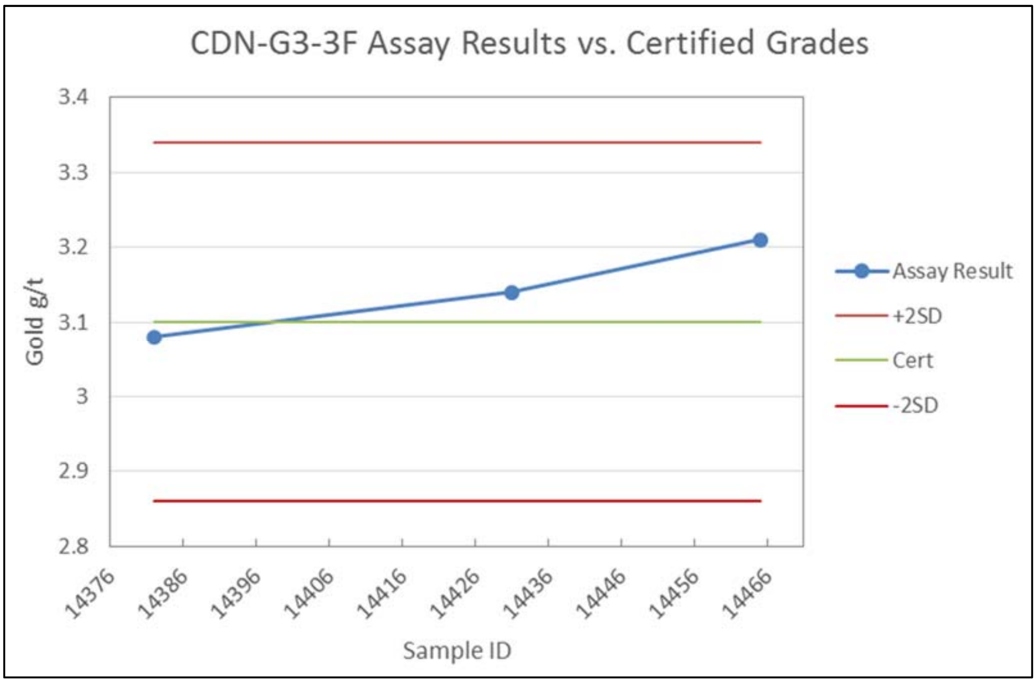


**Figure 10-2 Comparison of CRM gold assay results against certified grades (source: SRK ES, 2016)**

### Blank Samples

Two blank samples were inserted into the sample batch representing the 19th and the 78th samples. Blank material was sourced in Greenland from on outcrop of fresh unaltered granodiorite on a ridge about 2 km southwest of Nalunaq. Analytical results are summarised in Table 10-3 and show no indication of contamination or mineralisation in the samples.

**Table 10-3 Analytical results for blank samples (source: SRK ES, 2016)**

| Sample ID | Sample Type | Au g/t | Ag g/t | As ppm | Cu ppm | K % | S % |
|---|---|---|---|---|---|---|---|
| 14394 | Blank | <0.05 | <0.5 | <5 | 1 | 4.36 | 0.01 |
| 14453 | Blank | <0.05 | <0.5 | <5 | 2 | 4.21 | <0.01 |

### Duplicate Samples

No field duplicates were taken. Duplicates of three coarse rejects of samples specified by SRK ES were analysed by ALS in order to test for repeatability in the analytical procedures. This represents about 3% of the total number of field samples. The duplicate samples were inserted immediately consecutive to the original samples, and empty numbered sample bags had been included in the sample batch for this purpose. This was done for three samples as summarised in Table 10-4.

Good repeatability is observed with the exception of sample 14468 which shows slightly higher gold and arsenic grades in the duplicate. Closer inspection of the results shows that, in the screened metallic assay, the gold grade in the oversize (+100 micron) of the original sample is below the detection limit but is 0.15 g/t in the duplicate. Thus it is possible that gold-mineralised material was present in the duplicate split but not the original rather than this indicating contamination, as is common for high nugget-effect gold deposits. This would also explain the increased arsenic grades since gold and arsenic are closely associated at Nalunaq.

**Table 10-4 Comparison of analytical results for samples and their coarse reject duplicates (source: SRK ES, 2016)**

| Sample ID | | Au g/t | Ag g/t | As ppm | Cu ppm | K % | S % |
|---|---|---|---|---|---|---|---|
| 14414 | Original | <0.05 | <0.5 | 46 | 59 | 0.08 | 0.01 |
| | Coarse reject duplicate | <0.05 | <0.5 | 49 | 55 | 0.08 | 0.01 |
| 14445 | Original | <0.05 | <0.5 | 9 | 15 | 0.09 | 0.01 |
| | Coarse reject duplicate | <0.05 | <0.5 | <5 | 14 | 0.08 | 0.01 |
| 14468 | Original | 0.10 | <0.5 | 335 | 174 | 0.65 | 0.04 |
| | Coarse reject duplicate | 0.14 | <0.5 | 414 | 153 | 0.79 | 0.04 |

***SRK ES Comment on QAQC Procedures***

SRK ES considers the procedures implemented are sufficient for this reconnaissance sampling. Further sampling, such as for the purposes of resource estimation, will require a more rigorous QAQC procedure including more regular insertion of QAQC samples and the use of more than one type of CRM so that the range of expected gold grades can be represented.

### 10.2.2 Metallurgical Samples

Material from the two stope pillar locations sampled plus the sweepings samples were packed into plastic barrels (18 in total), clearly marked with sample numbers, and dispatched by sea freight from Nanortalik for preparation and analysis by SGS Minerals Services Ltd. ("SGS") in Cornwall, UK. No metallurgical testwork on these samples has been carried out yet, but SGS prepared the samples and analysed them for gold grade.

Rock samples and sweepings samples underwent the same preparation and analysis procedures.

***Sample Preparation***

Each sample was crushed to 3.35 mm, homogenised and 1 kg split off. This split was then crushed to 1 mm and pulverised to 80% passing 75 microns.

***Gold Analysis***

Gold analysis was carried out by Wheal Jane Laboratory on behalf of SGS. This involves screening the 1 kg pulverised split at 106 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 30 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.

# 11 DATA VERIFICATION

It should be noted that SRK ES has not inspected the historical core in detail and therefore data pertaining to core measurements have been taken in good faith but are based on reporting by previous Competent Persons.

Selected intervals from a total of 35 surface boreholes are stored at the MLSA core storage in an airport warehouse in Narsarsuaq. SRK ES visited this in 2016 to inspect core from particular areas of interest. In particular, core from boreholes NQ158 and NQ163 was sought in order to confirm the presence of the MV between the current reef drives and the outcrop of the MV on the mountainside, and to investigate additional mineralised intercepts in the FW and HW. It was disappointing to find that core from NQ158 is incomplete; not all of the core has been stored and the important intersection depths are missing. There was no core at all from NQ163.

Although a thorough box count was not conducted at the storage facility, it is clear that other boreholes are similarly represented. One can only conclude that 'representative sections' of boreholes were submitted to the government for storage. It is to be hoped that the core was photographed, although SRK ES has seen no evidence of this so far.

# 12 MINERAL PROCESSING AND METALLURGICAL TESTING

## 12.1 Introduction

Nalunaq A/S has not yet carried out any of their own mineral processing or metallurgical testwork. Samples taken in 2016 and described in Section 8.7have not as yet undergone any testing. This section comments on historical results in order to provide an overview of potential recovery methods from Nalunaq ore.

Gold ore at Nalunaq contains a high proportion of coarse gold which is recoverable using gravity methods. However, other heavy minerals such as lollingite, arsenopyrite and copper sulphides are also present in mineralised material and are included in the gravity concentrates. These are difficult to separate efficiently from the gold and complicates smelting of the concentrates: doré would contain unacceptably high concentrations of arsenic. Therefore, it is considered that gravity separation to recover free gold followed by cyanide leaching of the tailings, or direct cyanide leaching, represent the most favourable options.

## 12.2 Historical Metallurgical Testing

In their 2002 Feasibility Study, Kvaener reported on metallurgical testwork by several parties including Lakefield Research, Gekko and André Laplante which supported processing flowsheet development. It was concluded that the optimum processing circuit should be based on the following:

1. Two stages of crushing followed by a single stage of ball mill grinding;
2. Gekko jigs and a shaking table to recover 80% of the free gold by gravity;
3. Tailings from the gravity circuit are 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.

## 12.3 Recent Metallurgical Testing

SGS Minerals Services UK Ltd. ("SGS") was commission by Angel Mining PLC 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 PLC 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 $D_{80}$ of 75 µm or below (Figure 12-1);
- A review of all final gold recovery results for all tests shows that the gold and silver readily leach at a grind $D_{80}$ of 75 µm and at a density of between 30% and 47% solids (Figure 12-2);
- There is a large percentage of coarse nuggety gold in the sample which should be gravity

recoverable (22%). However, effective gravity recovery also depends on the presence of other heavy minerals which may hamper efficient separation or direct smelting of the concentrates;

- The leach recovery of the gold over 24 hours suggests a 95% recovery on the current density of 30% solids and cyanide strength 0.5 g/l NaCN at a grind size of 75 µm (Figure 12-3);
- Silver recovery is also high between 85% and 95% at a grind size of 75 µm;
- Leach kinetics on gravity tailings would be a valid investigation as leaching the feed has shown to be successful. This would depend upon gravity being a viable process route.

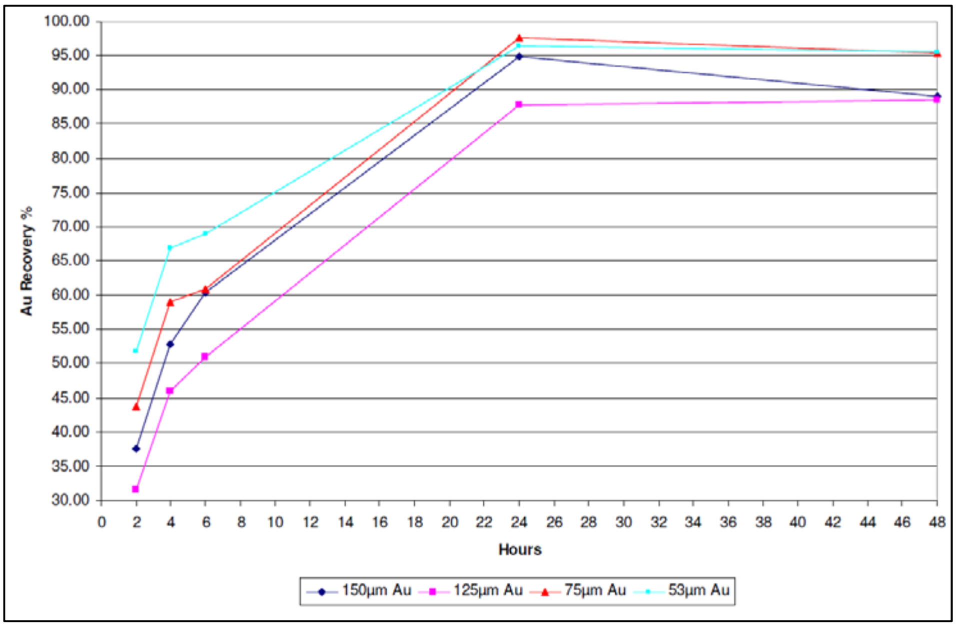


**Figure 12-1 Effect of grind size on gold recovery in cyanide leaching (SGS, 2011)**

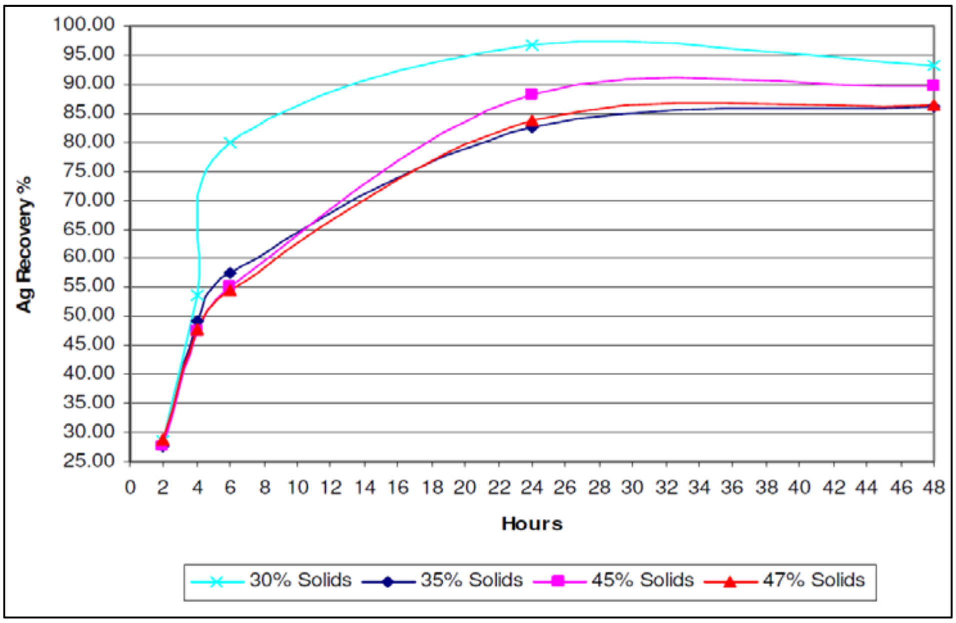


**Figure 12-2 Effect of feed density on gold recovery in cyanide leaching at a grind size $D_{80}$ of 75 µm (SGS, 2011)**

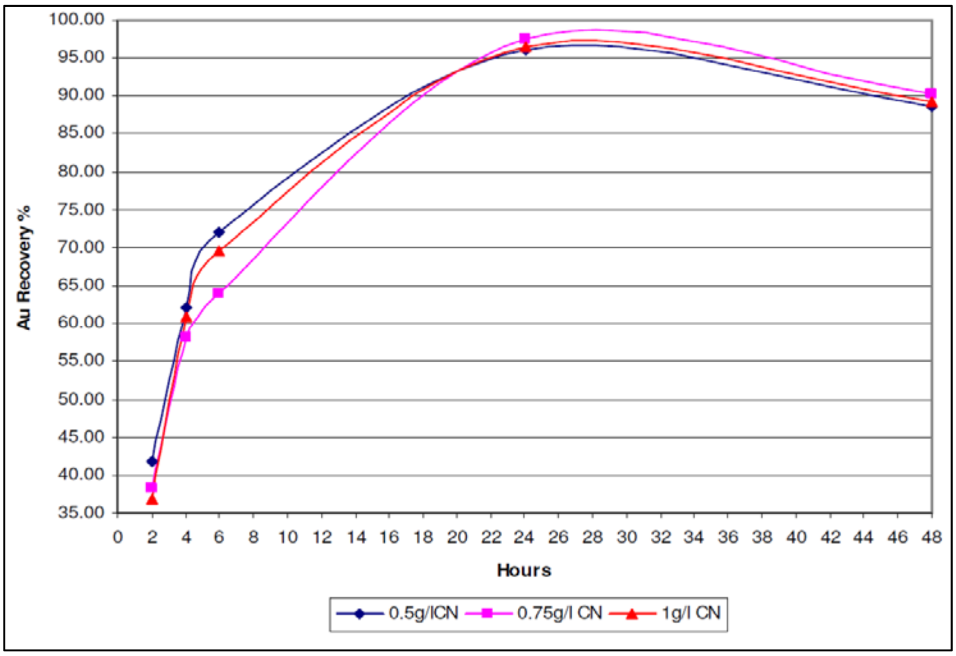


**Figure 12-3 Effect of cyanide solution strength on gold recovery in cyanide leaching at a grind size $D_{80}$ of 75 µm and a density of 30% solids (SGS, 2011)**

### 12.3.1 SRK ES Comment

Whilst the amount of gravity-recoverable gold was estimated by SGS to be 22%, this relates to the particular sample submitted for analysis and may not relate to mineralised material in the wider area. Sampling undertaken by Nalunaq A/S in 2016 indicates that a much higher recovery may be possible based on the quantities of coarse gold (>106 µm) observed, as described in Section 8.7. Furthermore, Kvaener (2002) reported that 80% of the free gold is recoverable with gravity methods.

# 13 MINERAL RESOURCE ESTIMATES

## 13.1 Overview

SRK ES has, following the 2015 and 2016 field investigations and extensive compilation of historical data, created a new Mineral Resource estimate for the Nalunaq project. This estimate draws upon historical surface and underground data, a new topography and a new Main Vein ("MV") wireframe created from these data and the new surface samples that prove the continuity of the MV away from the mine area.

SRK ES has developed this Mineral Resource estimate on the interpretation widely applied by previous workers that the mineralisation at Nalunaq is hosted within three plunging high-grade features within a shallow dipping mesothermal quartz-gold vein as discussed in Section 6.

However, through the review of the 2015 and 2016 exploration results, a new interpretation of Nalunaq suggesting that these plunging features are in fact an artefact of sampling across previously unrecognised faulted offsets of the MV, has been proposed and discussed in Sections 8.6 and 24. This has the implication that the mineralisation in the MV structure may have greater continuity than previously reported and may not be restricted to the three plunges. While this provides an obvious potential upside to the resource potential at Nalunaq, this interpretation requires further investigation through 2017 and as such has not been incorporated into this Mineral Resource estimate. Future work on the resource model must include and review of the search ellipse rotations, amendment of block modelling in the context of newly interpreted faults, and removal of assay data from drives that have been confirmed off-reef, the current inclusion of which negatively influences the estimate.

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

1. **Remnant Material** – 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 as described in Section 8.8, 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 contain insufficient sampling to define a Mineral Resource and are some distance from the current infrastructure.

## 13.2 Input Data

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

- Surface core drillhole data (173 drillholes, 7,164 samples);
- Underground drillholes (237 drillholes, 723 samples);
- Underground chip/channel samples (7,796 samples); and,
- Surface channel samples (458 samples).

Nalunaq has undergone around 8 drilling programmes since 1993, as summarised in Table 13-1.

**Table 13-1 Summary of Nalunaq Drill Sampling Programmes by Year (source: SRK ES, 2016)**

| 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 |
| **Totals** | **173** | | **30,478** |

Downhole surveys were performed but only comprised a simple acid tube test to check for dip. From their review, SRK ES believes that the downhole surveys seem reasonable. Core recoveries from the mineralised intersections averaged 98% and are therefore considered acceptable.

All drillholes were sampled following manual splitting with one half of the core taken for assay. The samples underwent screen fire assays at XRAL laboratories, and on-site at Nalunaq.

Underground samples were produced using a diamond saw taking three parallel cuts to produce a composite sample, or by manual chip sampling. Full procedures are described in Snowden's 2005 report regarding a Mineral Resource estimation for Nalunaq and are considered robust for a high nugget effect coarse gold deposit such as Nalunaq.

## 13.3 Sample Verification

It should be noted that SRK ES has not seen the historical core and therefore data pertaining to core measurements have been taken in good faith but are based on reporting by previous Competent Persons. It is understood that this is stored in a warehouse in Narsarsuaq, to which access was not possible during 2015.

Although SRK ES have not reviewed the raw Quality Assurance and Quality Control results, the procedures are fully described in the 2005 Snowden report (Dominy, 2005) and summarised in Section 10.1 of this report. SRK ES have relied upon Snowden's 2005 report in this regard. Snowden did note that QAQC practices for production samples had some shortcomings with respect to industry best practice, but these mainly relate to samples in areas that have now been mined out and hence are not material to this Mineral Resource estimate.

## 13.4 Modelling Procedure

### 13.4.1 Overview and Fault Blocks

It must be noted that the following description does not refer to or make use of the new structural interpretation outlined in Section 24.4 which was developed after the 2016 field season. Pending confirmatory work of this interpretation, the Mineral Resource estimate should be updated in 2017 to account for the following:

1. Utilisation of the new structural interpretation as block boundaries;
2. Removal of the assay data from off-reef portions of 18 strike drives; and,
3. Review of search ellipse rotations following the interpretation that the northeast-plunging ore shoots may be artefacts of off-reef sampling.

Figure 13-1 illustrates the three main mineralised areas in the mine (South Block, Target Block and Mountain Block). South Block and Target Block are separated by the Pegmatite Fault, which is a steeply WNW-dipping fault with 80 m vertical offset, west-side down. There is no fault observed in the mine between Target Block and Mountain Block and it is therefore possible that the two are parallel features, or even that the MV continues between these areas.

South Block and Target Block are subdivided into smaller fault blocks. These blocks were numbered 301-320 during mining so that data in the database could be associated with each of these smaller fault blocks. South Block is subdivided into two parts (blocks), separated by the Remuck Fault (blocks 310 and 311). Target Block is cut by two main faults, Clay Fault and Your Fault, resulting in four fault blocks (301, 302, 303 and 304). Mountain Block is numbered 320.

In the course of this exercise, a new tentative fault block was proposed within South Block, named block 312 Xtra. A poorly-defined steeply north-dipping fault (named "New fault", Figure 13-1) isolates a part of the MV with a 20 m vertical offset.

The modelled wireframe for the MV is also divided into these fault blocks with the exception of blocks 301 and 320. Because no fault has been observed in the mine between Target Block and Mountain Block, these two blocks are modelled with one MV structure (block 301 and 320 combined).

Smaller faults were observed in the mine, but offsets are usually minimal. Only in the northern part of block 310 (SB), is a noticeable offset in the plane defined by the samples. In order to avoid further complications, these smaller faults were not modelled.

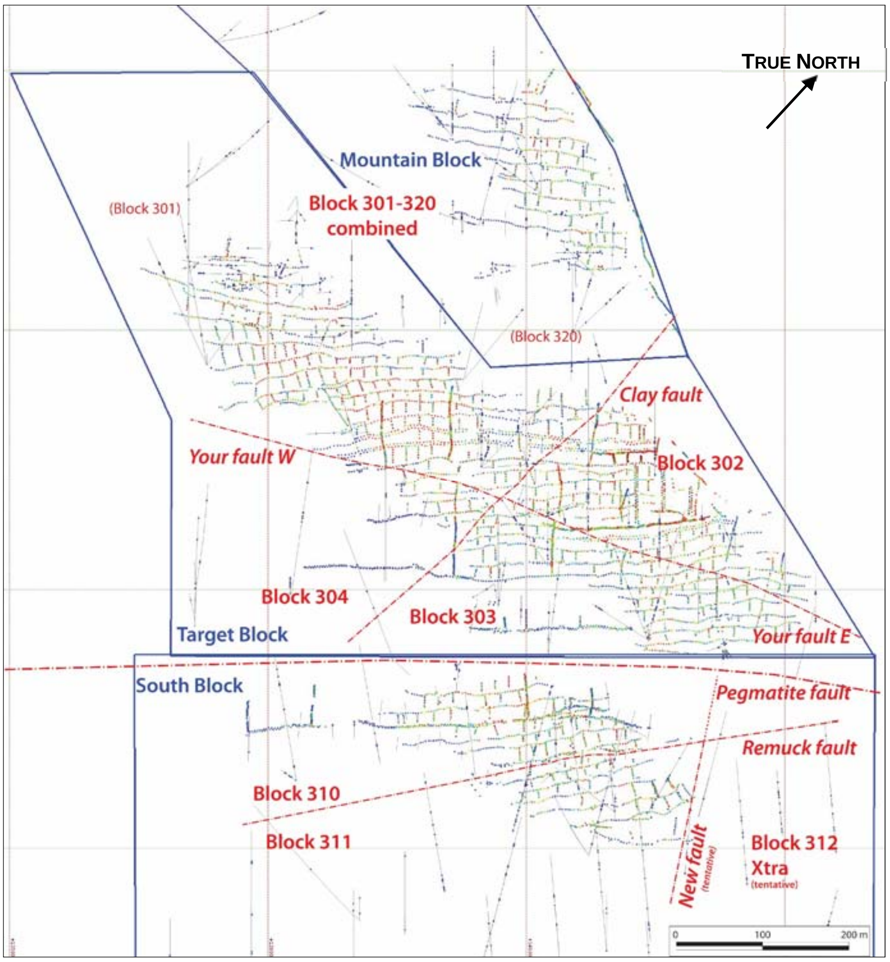


**Figure 13-1 Numbered fault blocks and named Main Vein blocks at Nalunaq (source: SRK ES, 2016).**

*Block 312 Xtra and the fault to the west of it are newly proposed by SRK ES*

### 13.4.2 Fault Modelling

Fault geometries used within the Mineral Resource estimate were mainly based on data extracted from the old mine site GEMCOM database and DXF point files provided by GEUS. These data are restricted to the mined part of the mountain, as observed in the drives/ramps. Subsequent structural interpretations from the 2016 field season have not been included within the Mineral Resource estimate as they require further investigation before being fully incorporated.

Clay Fault and Your Fault had to be adjusted slightly by SRK ES as they did not trace the true surfaces that offset the sample datapoints (example of adjusted fault shown in Figure 13-2). The Clay Fault also had to be adjusted to fit the offset in the line of surface samples east of the Mountain Block.

In order to be able to extend the faults away from the mine drifts, the moving plane function in Leapfrog software was used, orientating to fit the known outline of each fault, with datapoints for the different faults digitised upon this. In that way a reliable large-scale geometry of the faults (and therefore also the MV) was obtained. However it should be noted that the uncertainty of fault and MV positioning increases with increasing distance away from the underground workings.

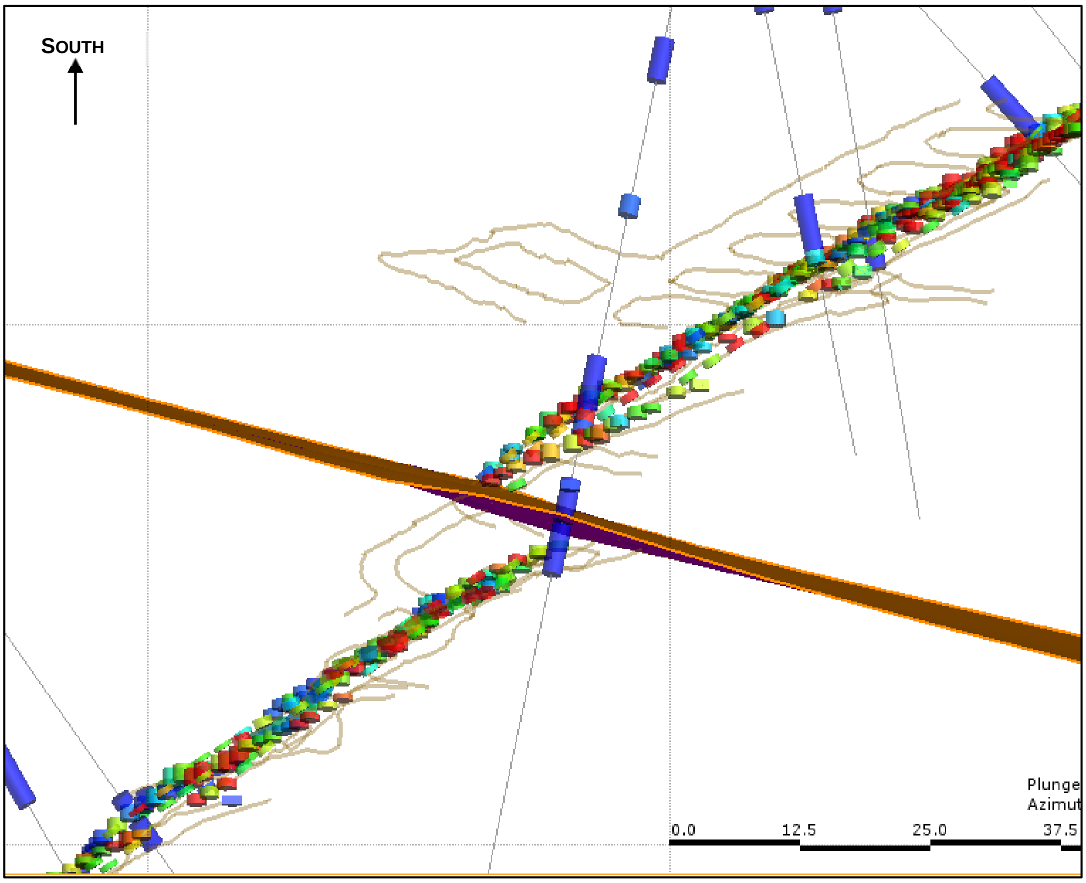


**Figure 13-2 Offset of the MV across the Your Fault at blocks 302 and 303 (source: SRK ES, 2016)**

*View is to the south, scale is in metres. Pale brown lines are drifts, grey lines are drillholes, and samples are coloured cylinders.*

### 13.4.3 Main Vein Modelling

A wireframe was constructed to represent the MV using datapoints for the tops and bottoms of samples taken across the vein. These data were sourced from the main ACCESS database (GD_Nalunaq_Gold_Mine.mdb) that Crew Gold and Angel Mining provided to the BMP and GEUS during their operations at Nalunaq.

The mean sample length of those samples marked as representing the MV in the database is 70.5 cm (8,538 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.

Where no underground channel sampling data were available beyond the mine workings, the mean length of the vein samples was used as a measure for the vein width and applied in areas where the vein is likely to exist, such as between various parts of the mine workings and borehole intersections of the vein. Where possible though, either surface samples were used, including the newly collected sample data on the west face of the mountain, or surface drill hole data (mainly in the South Block).

Drill core samples can be at any angle to the vein but if all samples were collected vertically, this would result in a mean true vein width of 54 cm. Because the majority of the drill core samples are collected either vertically or perpendicular to the vein the true mean width of the vein is assumed to be about 60 cm for the purpose of further modelling. This width is only relevant for modelling the vein beyond areas where channel sample data are available. Within the mine workings and the area covered by surface samples the model represents the true width of the vein.

It was found that there was a general discrepancy between underground development samples on one hand, and surface samples and surface drilling samples on the other hand. Surface sample locations were often recorded using handheld GPS units that are prone to poor altitude resolution. This is noticeable in the fact that many surface sample locations are below or above the topography defined by the digital terrain model. Surface drill holes have the disadvantage that a small error in the direction and dip angle of the drill hole will result in a significant error in position of the vein (compared to a 60 cm wide vein) in drill holes that are over 100 m deep. This was obvious in the drill holes in the upper part of the mountain, where vein intersections were outside the general plane defined in the mine and in the surface samples near the top of the mountain. Of course, it is also possible that deviations from the expected plane could be the result of structural offsets.

In order to extend the vein across areas where no data are available, the “Moving Plane” function in Leapfrog software was used to digitise points within a plane defined by the samples. These points were used to represent the hanging wall of the vein. For the FW of the vein, a second set of points was constructed 80 cm vertically below the HW, resulting in a slightly larger than 60 cm width of the vein model, depending on the dip of the vein.

Using these combined datapoints, the vein geometry was constructed using the “New Vein” function in Leapfrog Geo. As explained previously, the vein is subdivided into the six different fault blocks.

In several parts of the wireframe, the Leapfrog modelling routines created holes in the vein model (Figure 13-3). Careful inspection showed that these were not geological realistic. They occur particularly in areas of more complex data distribution, or where there were sudden changes in sample thickness causing Leapfrog to extend this thinning trend beyond the two samples.

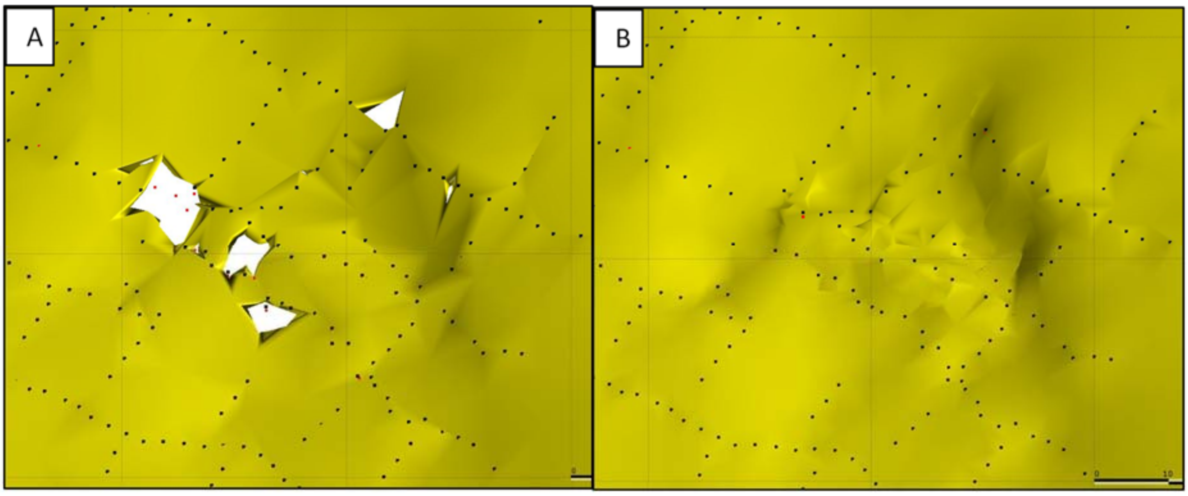


**Figure 13-3 Example of holes in the Leapfrog model as a result of irregularities in the datapoints (source: SRK ES, 2016)**

***A**, before, and **B** after editing the wireframe to close the holes. Black dots are digitised datapoints representing the hanging wall of the vein.*

Splays of the vein can also create irregularities that result in holes, especially where the splays are defined in one raise only, or in very few datapoints. In such cases datapoints of the splay were deleted. Known splays occur on levels 480-520 at stopes 27-28, levels 290-320 stopes 1 and E1, around stope 290-11 and in levels 210-220 at stopes 210-3 to 220-6. Another known splay of the vein at levels 380-390 is not obvious in the sample data.

The holes in the wireframe were manually repaired in Leapfrog using the simplest geologically meaningful solution.

### 13.4.4 Proposed New Fault Block – 312 Xtra

In the southeast corner of the mine (Block 311), the vein appears to be vertically offset by 20 m on a steep north-dipping fault (north-side-up, see Figure 13-4). The raised part of the vein/new fault block is defined by 8 intersections in surface drill holes. This interpreted vein block was modelled by SRK ES as “Block 312 Xtra”. The position and orientation of the fault is very uncertain and may well have a shallower dip. No MV intersections at the same level as existing ore drives are reported north of this fault, and no intersections are seen at the higher level to the south of the proposed fault. Gold grades are in the drill hole intersections are moderate, varying from 0.1 to 12.4 g/t.

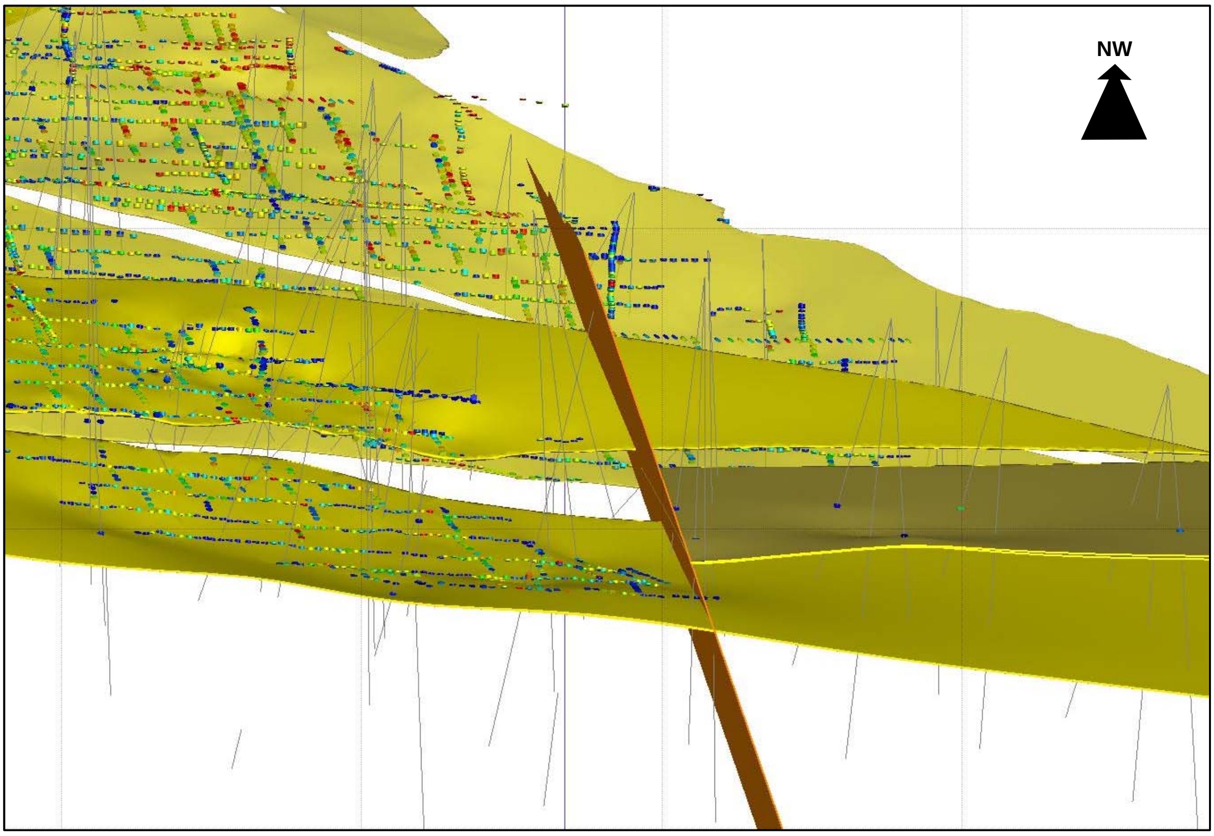


**Figure 13-4 Cross-sectional 3D view of Leapfrog model looking northwest (source: SRK ES, 2016)**

*Vein blocks in the foreground are block 311 and 310 of the South Block. The orange fault displaces the Main Vein by about 20 m. The vein in Block 311 is shown to continue east of the fault, but this is unlikely to represent the true situation.*

### 13.4.5 Data Manipulation

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.

## 13.5 Statistics and Geostatistics

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 13-5 and Table 13-1. It can be seen that 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.

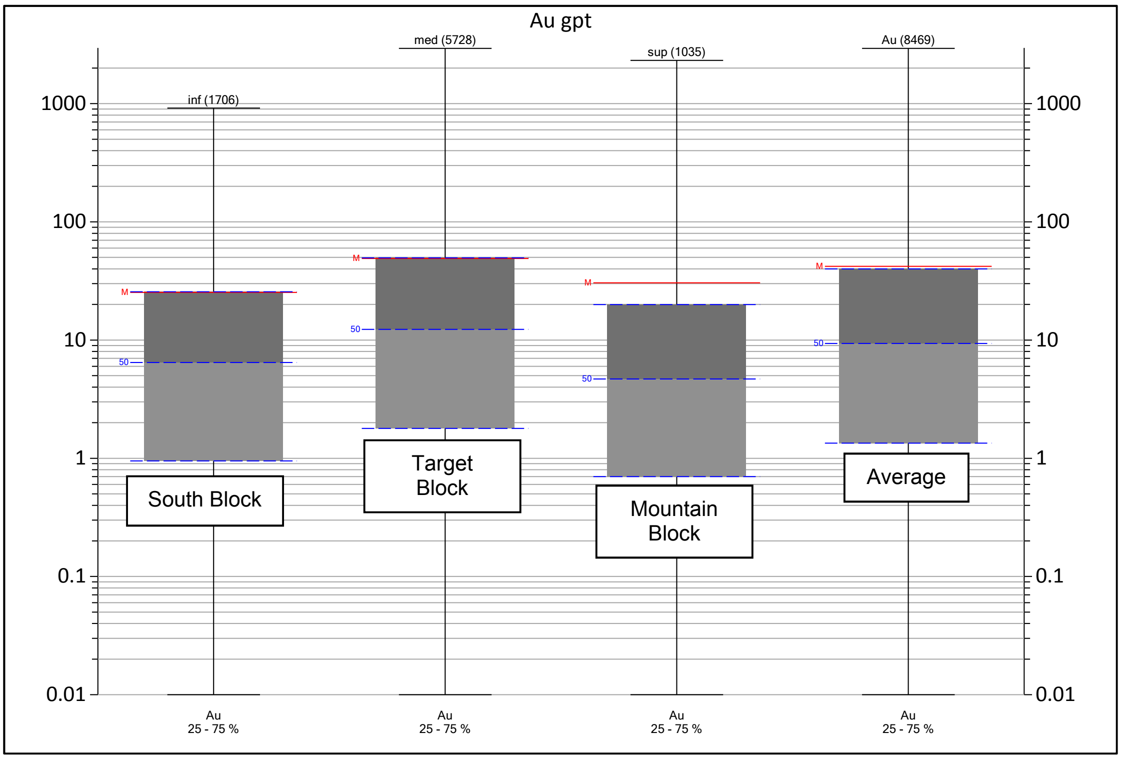


**Figure 13-5 Box Plot of the Main Vein domains (source: SRK ES, 2016)**

**Table 13-2 Summary statistics of the three Main Vein grade domains (source: SRK ES, 2016)**

| Domain | Samples | Min | Max | Mean | SD | Var | CV |
|---|---|---|---|---|---|---|---|
| Mountain | 1035 | 0.01 | 2324.58 | 30.53 | 115.21 | 13273.33 | 3.77 |
| Target | 5728 | 0.01 | 2935.8 | 49.05 | 126.93 | 16111.42 | 2.59 |
| South | 1706 | 0.01 | 917.36 | 25.32 | 59.15 | 3498.44 | 2.34 |
| **TOTAL** | **8469** | **0.01** | **2935.8** | **42.00** | **115.44** | **13327.2** | **2.75** |

The statistics of all samples as well as each domain were assessed and suggest the presence of three distinct populations as outlined in Figure 13-6 and Figure 13-7. 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.

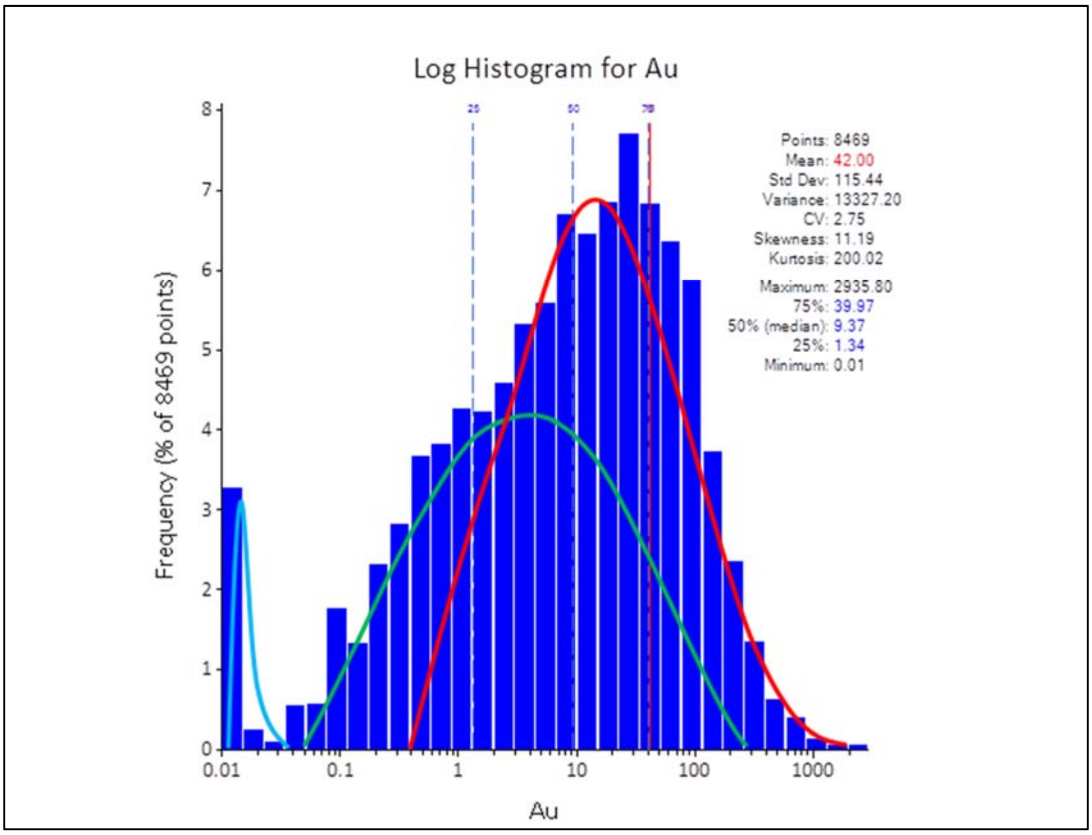


**Figure 13-6** **Log Histogram of uncapped 1 m gold composites across all three MV domains illustrating three grade populations (blue, green and red curves) (source: SRK ES, 2016)**

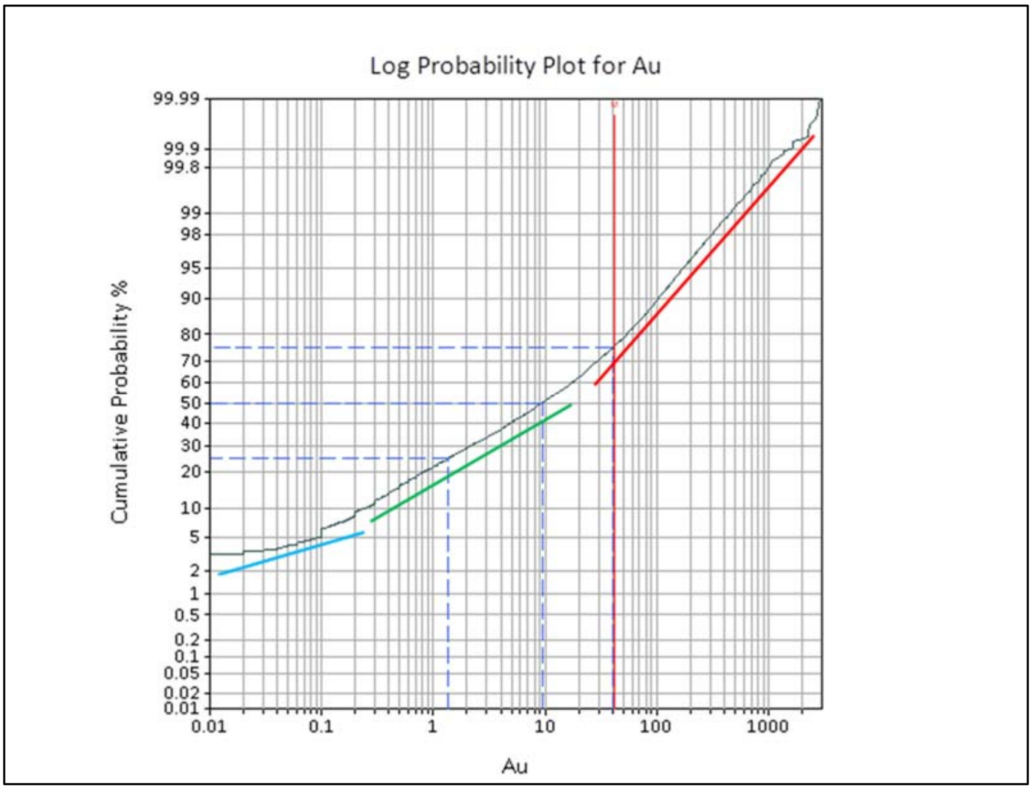


**Figure 13-7** **Cumulative Probability Plot of uncapped 1 m gold composites across all three MV domains illustrating three grade populations (blue, green and red lines) (source: SRK ES, 2016)**

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 13-3. 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 as illustrated in Figure 13-8.

**Table 13-3 Data cut off grades used for Indicator Kriging(source: SRK ES, 2016)**

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

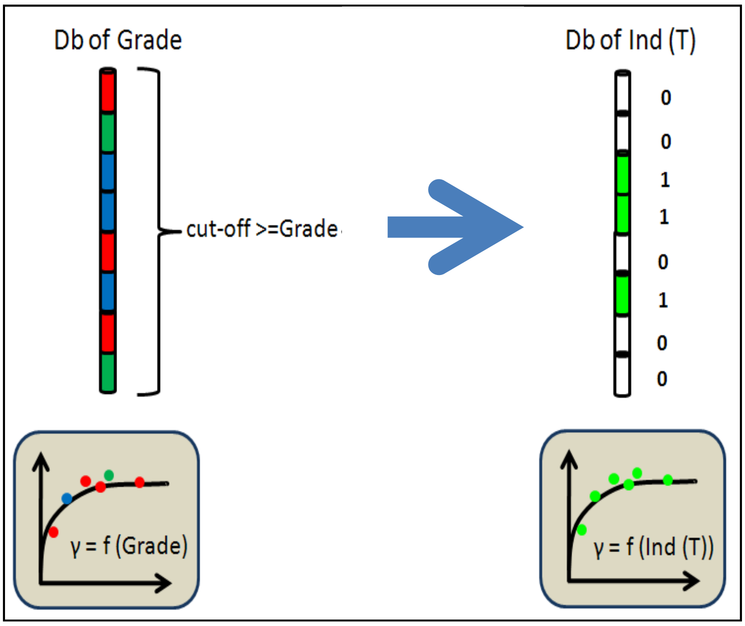


**Figure 13-8 Diagram explaining the procedure to define Indicator Values (Adapted by SRK ES, 2016)**

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. This process was conducted using Snowden Supervisor v8.4 software. The variogram results and Indicator Kriging parameters used are detailed in Table 13-4 and Table 13-5.

**Table 13-4 Indicator Variogram results across the three domains (source: SRK ES, 2016)**

| Domain | Nugget | Rot ZL | Rot XL | Rot ZL | Struc1 | X1 | Y1 | Z1 | Struc2 | X2 | Y2 | Z2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South | 0.5 | 175 | 35 | 25 | 0.24 | 25 | 14 | 10 | 0.26 | 170 | 130 | 20 |
| Target | 0.4 | 0 | 145 | 95 | 0.33 | 20 | 25 | 10 | 0.27 | 150 | 100 | 20 |
| Mountain | 0.4 | -5 | 145 | 105 | 0.35 | 10 | 20 | 10 | 0.25 | 180 | 80 | 20 |

**Table 13-5 Indicator Kriging parameters(source: SRK ES, 2016)**

| Domain | Rot | Rot | Rot | X | Y | Z | Min | Max |
|---|---|---|---|---|---|---|---|---|
| | ZL | XL | ZL | | | | | |
| South | 175 | 35 | 25 | 70 | 60 | 30 | 5 | 22 |
| Target | 0 | 145 | 95 | 70 | 50 | 30 | 6 | 20 |
| Mountain | -5 | 145 | 105 | 70 | 50 | 30 | 6 | 18 |

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 13-9.

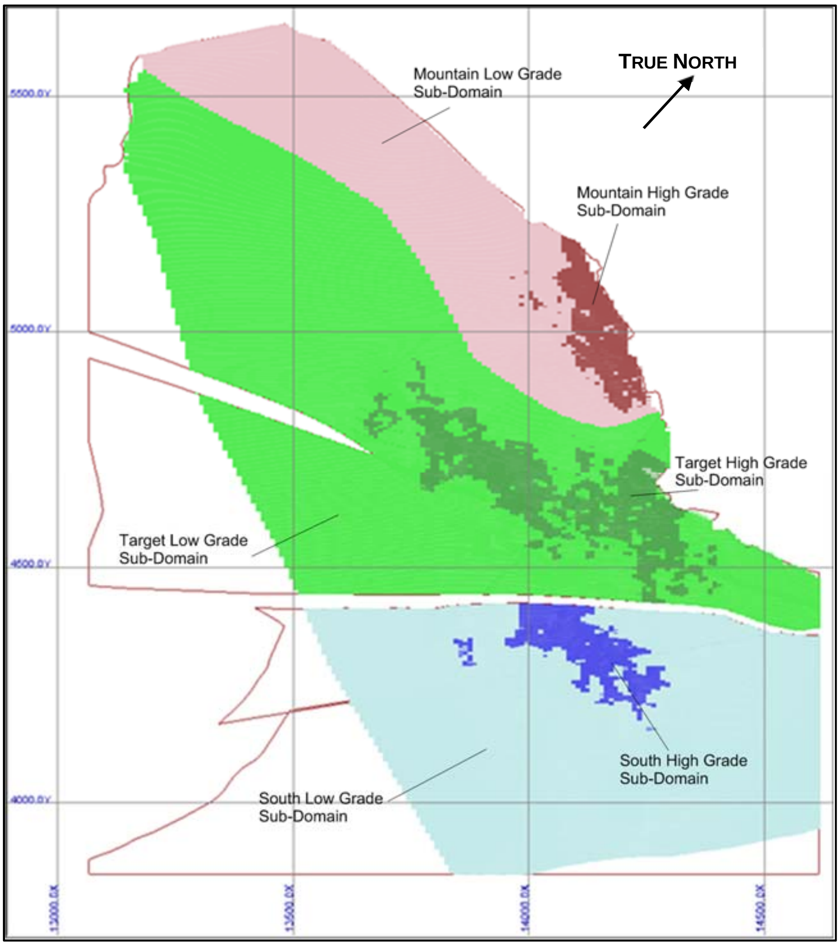


**Figure 13-9 Plan map illustrating the location of the six sub-domains at Nalunaq. Coordinates are local mine grid (source: SRK ES, 2016)**

The summary statistics for each of the sub-domains are outlined in the figures and tables below.

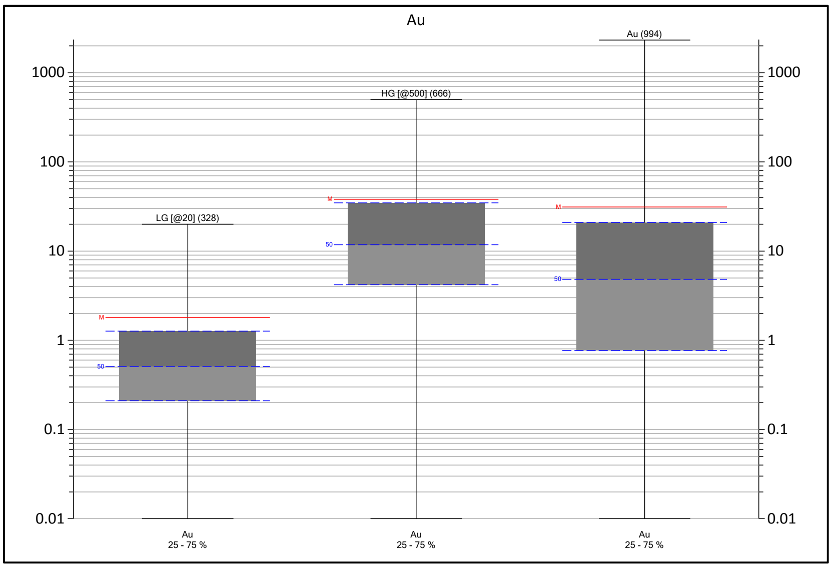


**Figure 13-10** **Box Plot of uncapped 1 m gold composites across the Mountain sub-domains (source: SRK ES, 2016)**

**Table 13-6** **Summary statistics of the 1 m gold composites across the Mountain sub-domains**

| Domain | Samples | Min Au g/t | Max Au g/t | Mean Au g/t | SD | Var | CV | Capping Au g/t | # Capped |
|---|---|---|---|---|---|---|---|---|---|
| LG mountain | 328 | 0.01 | 20 | 1.81 | 3.91 | 15.32 | 2.17 | 20 | 11 |
| HG mountain | 666 | 0.01 | 500 | 38.04 | 76.06 | 5784.65 | 1.73 | 500 | 7 |

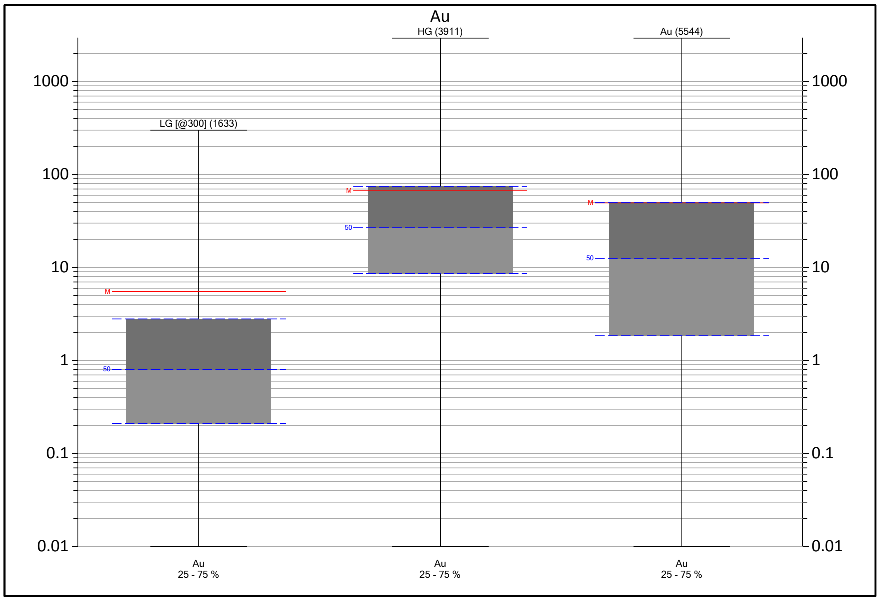


**Figure 13-11** **Box Plot of uncapped 1 m gold composites across the Target sub-domains (source: SRK ES, 2016)**

**Table 13-7 Summary statistics of the 1 m gold composites across the Target sub-domains (source: SRK ES, 2016)**

| Domain | Samples | Min Au g/t | Max Au g/t | Mean Au g/t | SD | Var | CV | Capping Au g/t | # Capped |
|---|---|---|---|---|---|---|---|---|---|
| LG Target | 1633 | 0.01 | 200.0 | 5.17 | 19.85 | 393.99 | 3.8 | 200 | 10 |
| HG Target | 3911 | 0.01 | 2935.8 | 66.81 | 139.95 | 19585.53 | 2.09 | - | - |

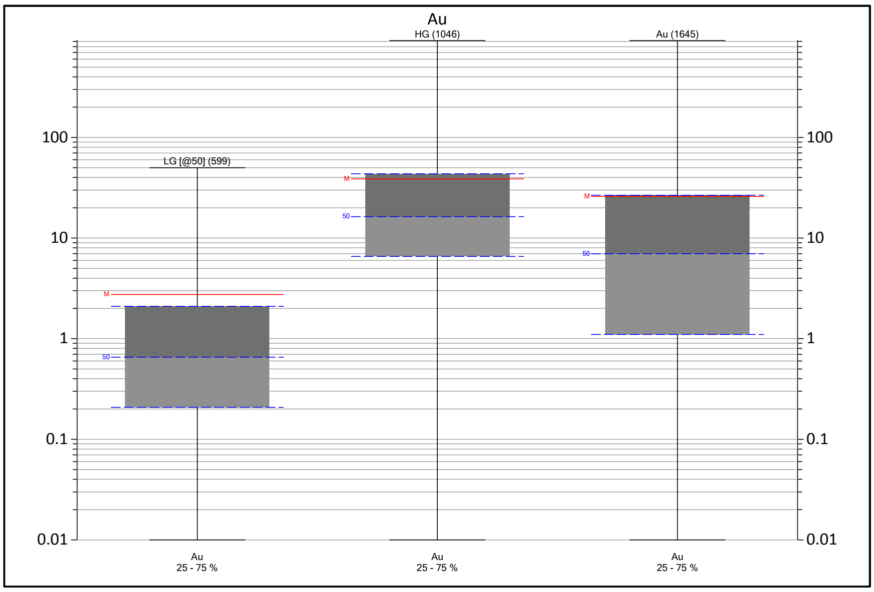


**Figure 13-12 Box Plot of uncapped 1 m gold composites across the South sub-domains (source: SRK ES, 2016)**

**Table 13-8 Summary statistics of the 1 m gold composites across the South sub-domains (source: SRK ES, 2016)**

| Domain | Samples | Min Au g/t | Max Au g/t | Mean Au g/t | SD | Var | CV | Capping Au g/t | # Capped |
|---|---|---|---|---|---|---|---|---|---|
| LG South | 599 | 0.01 | 50 | 2.75 | 7.19 | 51.72 | 2.6 | 50 | 10 |
| HG South | 1046 | 0.01 | 917.36 | 38.69 | 71.35 | 5090.27 | 1.84 | - | - |

Following this 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 (Figure 13-13). 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 13-9 illustrates the top cuts used during the 2015 estimate.

**Table 13-9 Data Top Cuts Used for the Various Main Vein Sub-Domains (source: SRK ES, 2016)**

| Domain | Sub Domain | Top Cut (g/t Au) | No. of Samples Affected |
|---|---|---|---|
| Mountain | High | 500 | 7 |
| | Low | 20 | 11 |
| Target | High | - | - |
| | Low | 200 | 10 |
| South | High | - | - |
| | Low | 50 | 10 |

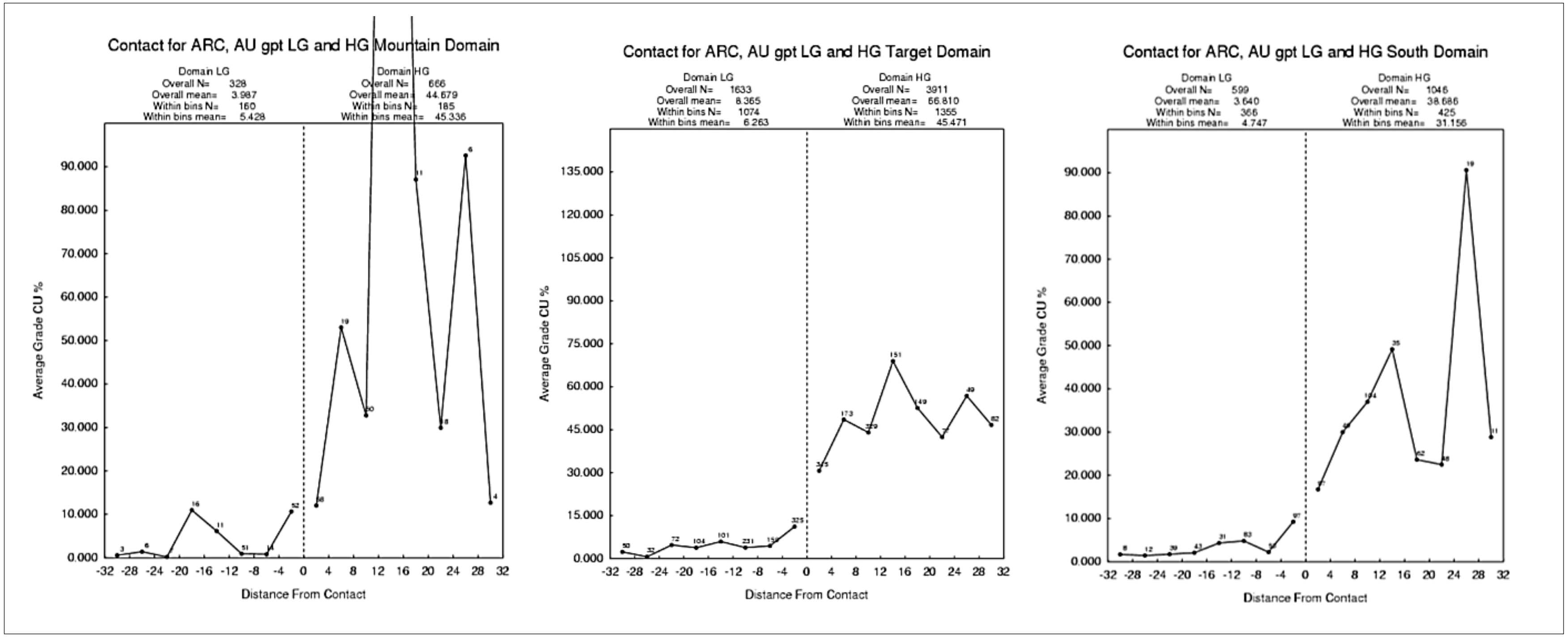


**Figure 13-13 Contact Analysis results between high and low grade sub-domains (source: SRK ES, 2016)**

A series of Variograms/Correlograms were produced from these capped data in Snowden Supervisor software. Care was taken to model the short-range structures and, in particular, accurately fit the nugget effect.

The search ellipse rotations were defined through the variographic analysis of each domain. This illustrated a distinct difference in mineralisation orientation between high grade and low grade zones in the Target and South domains. This may also be the same at the Mountain domain but due to a lack of data points here, both Mountain sub-domains were given the same direction. The implications therefore are that the high and low grade populations were emplaced during different mineralisation events with the high-grade population possibly related to a west-striking structural control, overprinting an earlier lower grade mineralisation event. This observation supports the used of separate grade domains during the estimation.

Table 13-10 and Table 13-11 outline the variogram results and estimation parameters for each of the sub-domains at Nalunaq. These parameters were defined through a programme of Quantitative Kriging Neighbourhood Analysis ("QKNA") on all the Nalunaq composite data.

**Table 13-10 Sub-domain Variogram results (source: SRK ES, 2016)**

| Domain | nugget | Rot ZL | Rot XL | Rot ZL | Struc1 | X1 | Y1 | Z1 | Struc2 | X2 | Y2 | Z2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LG South | 0.5 | 175 | 35 | 150 | 0.21 | 13 | 10 | 10 | 0.29 | 165 | 130 | 20 |
| HG South | 0.6 | 175 | 35 | 30 | 0.28 | 15 | 10 | 10 | 0.12 | 140 | 70 | 20 |
| LG Target | 0.45 | 180 | 35 | 110 | 0.29 | 25 | 25 | 10 | 0.26 | 200 | 85 | 20 |
| HG Target | 0.6 | 180 | 35 | 25 | 0.27 | 23 | 15 | 10 | 0.13 | 250 | 94 | 20 |
| LG Mountain | 0.4 | 5 | 145 | 105 | 0.4 | 100 | 10 | 10 | 0.37 | 200 | 110 | 20 |
| HG Mountain | 0.55 | 5 | 145 | 105 | 0.29 | 16 | 20 | 10 | 0.16 | 180 | 80 | 20 |

**Table 13-11 Estimation parameters by sub-domain (source: SRK ES, 2016)**

| Domain | Rot ZL | Rot XL | Rot ZL | X | Y | Z | Min | Max | SVol | Min | Max | SVol | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LG South | 175 | 35 | 150 | 80 | 60 | 30 | 3 | 8 | 2 | 5 | 20 | 15 | 10 | 24 |
| HG South | 175 | 35 | 30 | 100 | 60 | 30 | 3 | 16 | | | | | | |
| LG Target | 180 | 35 | 110 | 100 | 60 | 30 | 3 | 8 | 2 | 6 | 16 | 15 | 10 | 24 |
| HG Target | 180 | 35 | 25 | 100 | 60 | 30 | 3 | 16 | 2 | 4 | 24 | | | |
| LG Mountain | 5 | 145 | 105 | 90 | 50 | 30 | 3 | 8 | 2 | 4 | 20 | 15 | 10 | 24 |
| HG Mountain | 5 | 145 | 105 | 90 | 50 | 30 | 3 | 18 | 2 | 5 | 24 | | | |

## 13.6 Resource Estimation

### 13.6.1 Block Model Construction

A block model rotated to be aligned to the mine grid (45° west of true north )was created using Datamine software v.3.24.73 with an origin at 13,000 m east, 14,720 m north, and -125 m above sea level. Block dimensions of 10 m x 2 m x 2 m were selected based on the average width of the vein, the QKNA programme and the anticipation of the likely smallest mining unit. Block model parameters are shown in Table 13-12. No sub-blocks were used in the estimations stage.

**Table 13-12 Block Model Parameters (source: SRK ES, 2016)**

| | Minimum | Maximum | Block Size | # Blocks |
|---|---|---|---|---|
| East | 13000 | 14720 | 10 | 172 |
| North | 3750 | 5702 | 2 | 976 |
| Elevation | -125 | 1251 | 2 | 688 |

### 13.6.2 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.

### 13.6.3 Tonnage estimation

While the Snowden report uses a density of 2.7 g/cm$^3$, 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$^3$ is more realistic. SRK ES has used this figure in their calculations.

### 13.6.4 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. No support correction was deemed required during this validation. A visual validation against drillhole composites was also undertaken.

***Global Bias Comparison***

The models were validated for any global bias by comparing a NN model to that created by OK. A difference greater than 5% is generally considered high. The results are summarised in Table 13-13. Only the Low Grade Target domain was found to contain significant differences at 8.7%. This difference is a result of the extrapolation of the low grade domain out into the Exploration Target area (an area that has not been classified as a Mineral Resource), and therefore this error is not considered significant. However, this will require additional reviews in future estimates.

**Table 13-13 Global Bias between OK and NN Models across Nalunaq (source: SRK ES, 2016)**

| Domain | Tonnage | Au g/t OK | Au g/t NN | Difference |
|---|---|---|---|---|
| HG South | 40,293 | 38.3 | 38.9 | 0% |
| LG South | 57,326 | 3.3 | 2.7 | 5% |
| HG Target | 167,099 | 60.3 | 65.0 | -2% |
| LG Target | 157,376 | 4.3 | 3.0 | 8.7% |
| HG Mountain | 42,207 | 35.9 | 31.0 | 4% |
| LG Mountain | 66,217 | 1.7 | 1.5 | 3% |
| **TOTAL** | **530,520** | **26.6** | **27.3** | **-1%** |

***Local Bias Comparison***

Local bias has been studied through the use of a set of Swath plots generated to assess the difference between the OK values and NN values (as a proxy for the nearest sample to the estimated block) on a geographical basis (elevation, north-south, east-west), as shown in Figure 13-14.

The results of these Swath plots suggest a good correlation between the two models. Normally it is expected that the OK model would generate a more rounded and smoother plot which is the case except in the mine area. Here, both models produce smooth plots due to the high density of samples in this region. Some areas of local variance between the samples and the estimate are identified however, and these again correlate to the extrapolated areas of the Main Vein that are classified either as Inferred or Unclassified. Therefore, these differences are not considered material.

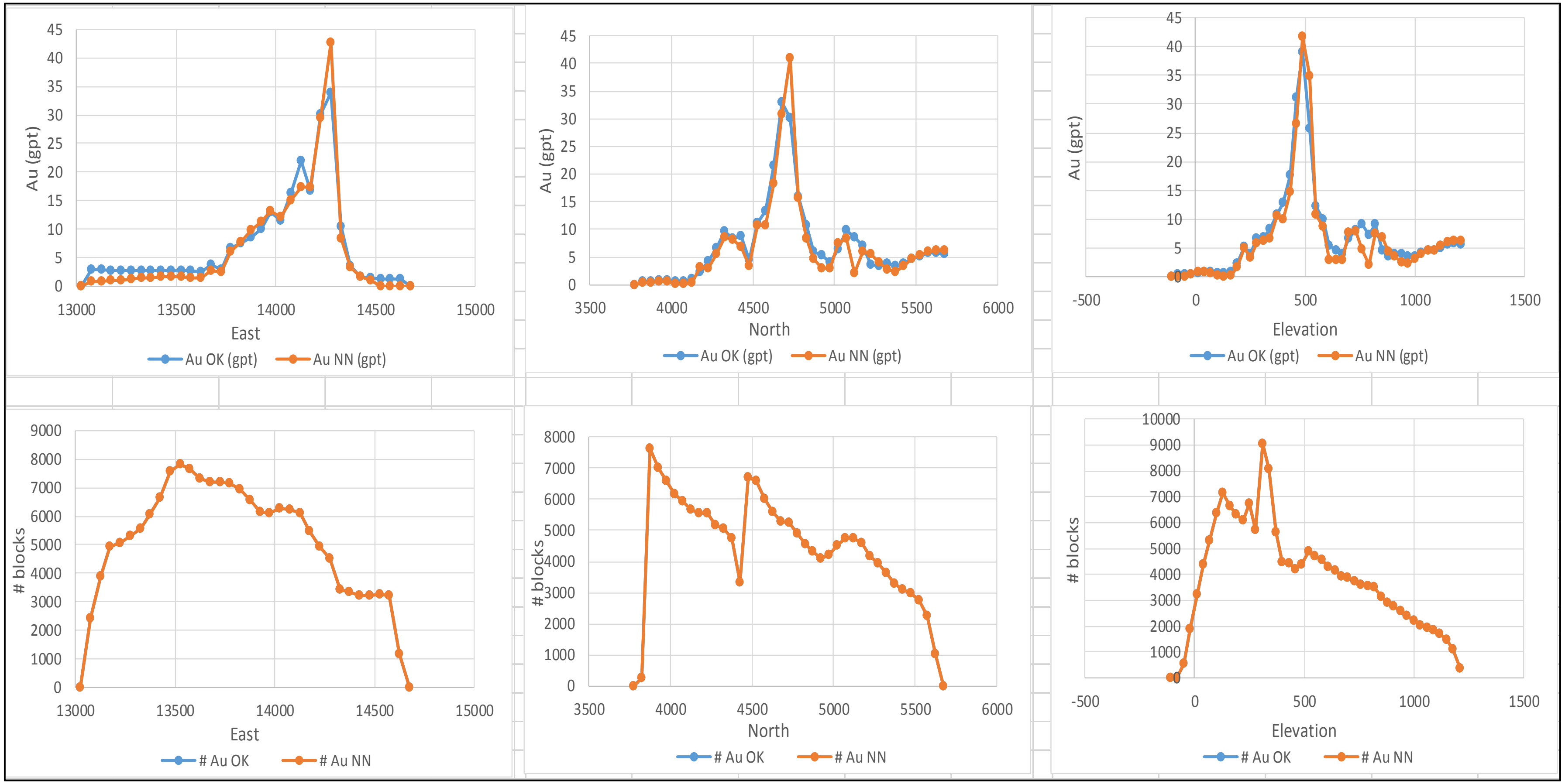


**Figure 13-14 Swath Plots across the Nalunaq resource models (source: SRK ES, 2016)**

### *Contact Analysis*

The Contact plot shown in Figure 13-15 illustrates the comparison between the OK block model (blue) and composited data (green) across domain contacts. Here the plots show that the block element behaviors close to contact/boundaries are very similar to the original composite data, particularly at the Target sub-domains. This suggests that the use of hard or semi-soft contact has mirrored the real data. There is less correlation at the Mountain and South sub-domains but this is considered an artifact of the smaller amount of orginal data points.

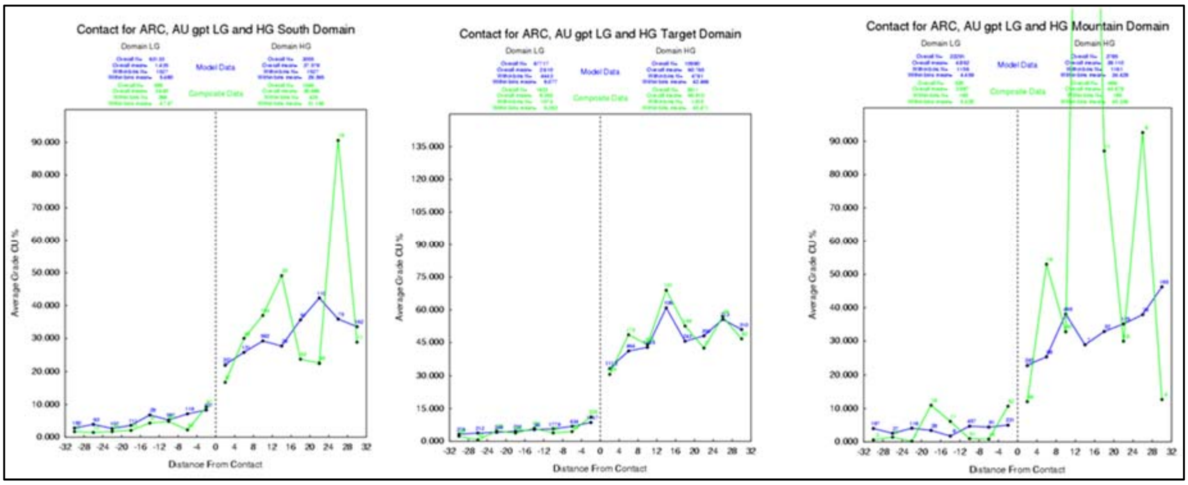


**Figure 13-15 Contact Analysis Plots across the three Sub-Domain Groups comparing the OK block model data (blue) and the composited data (green) (source: SRK ES, 2016)**

## 13.6.5 Block Model Modifications

### *Depletion for Mined Areas*

Following the 2016 stope inventory, 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.

To conduct this, existing stope and development shapes were recreated in Datamine Studio 5D Planner (5DP) software based on data provided by GEUS and confirmed, where possible, during site visits in 2015 and 2016. A shape representing a crown pillar of 10 metres was created in 5DP based on topographic data from created from stereo satellite imagery.

Using the Deplete Block Model routine within 5DP, the blocks within the existing stope and development shapes and the crown pillar shape were removed from the block model. The parent blocks in the original block model were sub-celled up to 8 times to provide an accurate fit to the existing stope and development shapes.

### *Dilution*

The final block model has also been diluted to a 1.8 m true width to reflect reasonable economic mining conditions.

Firstly, the horizontal thickness of the mineralised wireframe was calculated for each block in Datamine Studio 3 software. Secondly, each block was assigned an average dip of the MV structure using a series of dip domains produced in Leapfrog software. Following this, the true thickness was calculated for each block through the use of simple trigonometry. Finally, those blocks with a MV true width of less than 1.8 m were diluted to this figure through the inclusion of hanging wall and footwall material at a grade of 0.0 g/t gold. The final diluted block model was then used for subsequent resource classification and reporting.

### 13.6.6 Resource Classification

The material within the Remnant Material is well sampled, and details of its location and grade are all available. While in many situations these areas would be classified as Measured or Indicated Resources, due to the high nugget effect seen across Nalunaq, the lack of first had 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 1st search ellipse diameter), Table 13-14.

**Table 13-14 Resource Classification Criteria (source: 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 13-16 illustrates the final resource classification across Nalunaq.

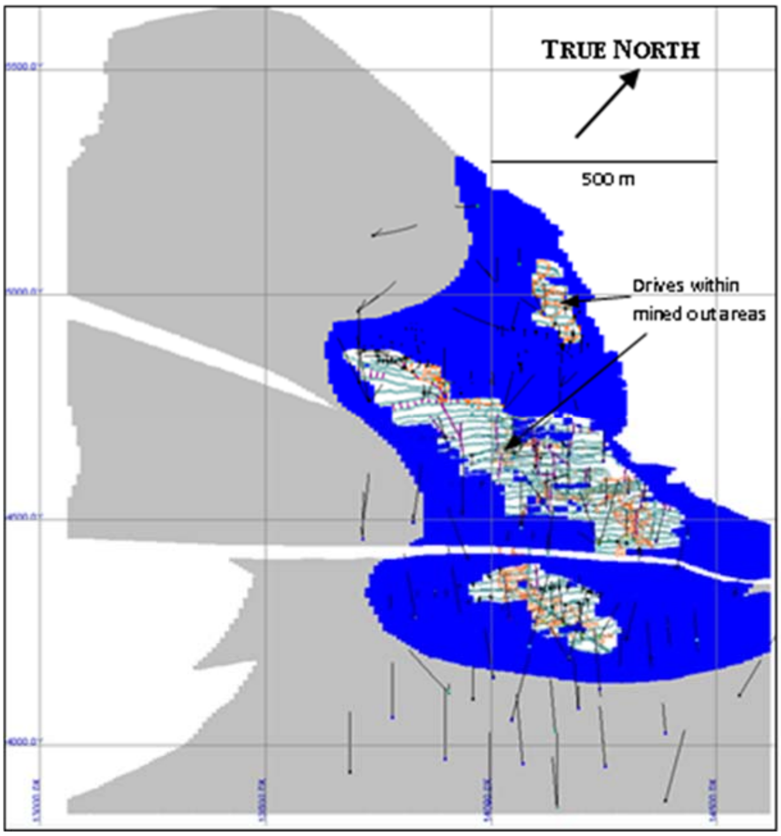


**Figure 13-16 Plan view of Nalunaq illustrating the final Mineral Resource classification (source: SRK ES, 2016)**

*Blue = Inferred, Grey = Unclassified, While = mined out. Coordinates are local mine grid*

### 13.6.7 Cut-Off Grade

To determine the Mineral Resource, a diluted cut-off grade of 5.5 g/t gold was selected based on assumptions for gold price, refining and royalty costs, processing recovery, and operating cost. The calculation is provided in Table 13-15. Operating costs estimation assumes a 300 t per day underground longhole open stoping operation with a minimum true mining width of 1.8 m. Offsite processing is also assumed, thus requiring a RoM transportation charge.

**Table 13-15 Cut-off grade calculation (source: SRK ES, 2016)**

| | Factor | Value US$ | Units | Formula |
|---|---|---|---|---|
| **Metal Price** | | | | |
| A | Gold Price | 1,300.00 | /oz | |
| **Refining, Transportation, and Royalties** | | | | |
| B | Refining Cost | 5.00 | /oz | |
| C | Transportation (1%) | 13.00 | /oz | |
| D | Government Royalty (2.5% on NSR) | 32.00 | | |
| E | **Total Refining, Transportation, and Royalties** | **50.00** | **/oz** | B+C+D |
| **Metal Value** | | | | |
| F | Metal Price | 1,300.00 | /oz | A |
| G | Refining, Transportation, Royalties | 50.00 | /oz | E |
| H | **Metal Value Dore** | **1,250.00** | **/oz** | A-E |
| I | Process Recovery | 92 | % | |
| J | **Metal Value Feed** | **1,150.00** | **/oz** | HxI |
| **Operating Cost** | | | | |
| K | Mining | 115.00 | /t | |
| L | RoM Transportation | 25.00 | /t | |
| M | Milling | 20.00 | /t | |
| N | General and Administration | 40.00 | /t | |
| O | **Total Operating Cost** | **200.00** | **/t** | K+L+M+N |
| **In-Situ Cut-off Grade** | | | | |
| P | Cut-off Grade | 0.17 | oz/t | O/J |
| Q | Conversion | 31.10 | g/oz | |
| R | **Cut-off Grade** | **5.4** | **g/t** | PxQ |
| **Cut-off Grade used for MRE** | | **5.5** | **g/t** | |

## 13.7 Resource Statements

### 13.7.1 Remnant Material

The material remaining within the current underground infrastructure has been reported diluted to a 1.8 m mining width and at a 5.5 g/t gold cut-off grade. A 10 m wide crown pillar and areas considered inaccessible and therefore lacking reasonable potential for economic mining, have been removed.

### 13.7.2 Tailings

Tailings material from the underground processing plant was redirected and stored in a series of 46 open stopes in the southwest corner of the Target Block (Figure 13-17). It is also assumed that the tailings would also be stored in the adjoining adits but not the footwall ramps. 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 has modelled 41 of these stopes, as well as the adits, in an attempt to estimate the tonnage of tailings material stored here ahead of any potential future tailing reprocessing programmes. Table 13-16 outlines the estimated volume, tonnage and contained gold in the tailings material stored underground. A grade of 4.0 g/t gold 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 1.8 g/cm$^3$ has been assumed for this material based upon estimates used across similar projects globally.

SRK ES' estimate defines around 24,000 m$^3$ or 43.2 kt for 5,550 oz gold.

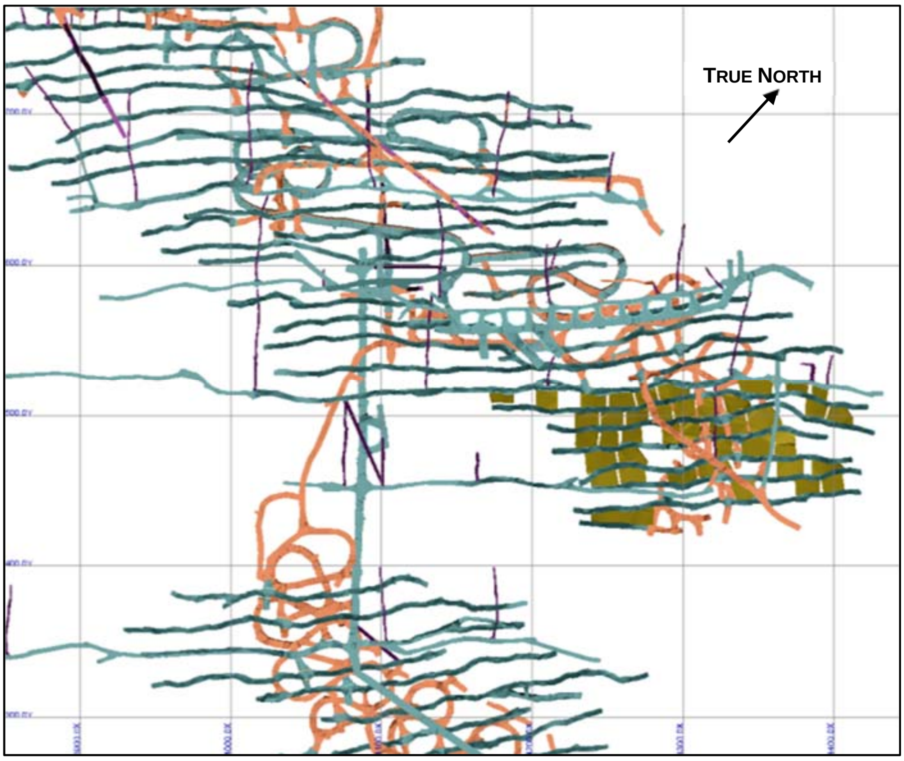


**Figure 13-17 Map Illustrating the Location of the Stopes Used for Tailings Storage (source: SRK ES, 2016)**

**Table 13-16 SRK Contained Tailings Estimate (source: SRK ES, 2016)**

| Zone | Level | Volume ($m^3$) | Density ($g/cm^3$) | Tonnage (t) | Grade (g/t Au) | Contained Gold (oz) |
|---|---|---|---|---|---|---|
| Target | 340 | 2287.4 | 1.8 | 4,117 | 4 | 529.47 |
| Target | 330 | 2477.3 | 1.8 | 4,459 | 4 | 573.44 |
| Target | 320 | 3915.2 | 1.8 | 7,047 | 4 | 906.27 |
| Target | 310 | - | 1.8 | - | - | - |
| Target | 300 | - | 1.8 | - | - | - |
| Target | 290 | 1572.4 | 1.8 | 2,830 | 4 | 363.97 |
| Target | 280 | 849.7 | 1.8 | 1,530 | 4 | 196.69 |
| Target | 270 | 674.2 | 1.8 | 1,214 | 4 | 156.06 |
| Adits | 340 | 3470.7 | 1.8 | 6,247 | 4 | 803.37 |
| Adits | 330 | - | 1.8 | - | - | - |
| Adits | 320 | 2786.5 | 1.8 | 5,016 | 4 | 645.01 |
| Adits | 300 | 691.1 | 1.8 | 1,244 | 4 | 159.97 |
| Adits | 300 | 1954.7 | 1.8 | 3,519 | 4 | 452.47 |
| Adits | 290 | - | 1.8 | - | - | - |
| Adits | 280 | 2786.0 | 1.8 | 5,015 | 4 | 644.89 |
| Adits | 270 | 516.2 | 1.8 | 929 | 4 | 119.49 |
| **TOTAL** | | **23,980** | | **43,170** | | **5,550** |

### 13.7.3 Mine Area

The Mine Area has also been stated at a diluted grade. A 5.5 g/t gold cut-off grade has been selected based on the assumptions detailed in Section 13.6.7.

A full breakdown of the resources across the Mine Area is given in Table 13-17.

## 13.8 Compiled Mineral Resource Statement

The following tables constitute the 2016 Mineral Resource estimate for Nalunaq separated by area.

### 13.8.1 Diluted Resources

**Table 13-17 Nalunaq Diluted Mineral Resource as of 10 December 2016 (source: SRK ES, 2016)**

| Zone | Classification | Tonnage (t) | Grade (g/t Au) | Contained Gold (oz) |
|---|---|---|---|---|
| Remnant Material | Inferred | 18,900 | 27.6 | 16,770 |
| Mine Area | Inferred | 428,000 | 17.9 | 246,300 |
| **Total Inferred** | | **446,900** | **18.7** | **263,070** |

*Notes:*

1. *Remnant Material reported at a cut-off grade of 5.5 g/t gold, Mine Area reported at a cut-off grade of 5.5 g/t gold*
2. *Diluted to 1.8 m true width at 0.0 g/t gold*
3. *Cut off calculated using a gold price of USD 1,300/oz*
4. *Total refining, transportation and royalties costs of USD 50.00/oz*
5. *Total operating costs of USD 200/t*
6. *All figures are rounded to reflect the relative accuracy of the estimate*
7. *Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.*
8. *100% of the Mineral Resource is attributable to Nalunaq A/S*

#### 13.8.2 Tailings Resource

**Table 13-18 Nalunaq Tailings Mineral Resource as of 10 December 2016 (source: SRK ES, 2016)**

| Zone | Classification | Tonnage (t) | Grade (g/t Au) | Contained Gold (oz) |
|---|---|---|---|---|
| Target SW | Inferred | 43,170 | 4.0 | 5,550 |

*Notes:*

1. *Reported at a cut-off grade of 0.0 g/t gold*
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*

### 13.9 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 newly acquired surface samples in 2015 and 2016 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. The Exploration Target is the area shown in grey in Figure 13-16.

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 80 koz gold to 1.2 Moz gold contained within 1 Mt to 2 Mt grading between 2.5 to 19.0 g/t gold.

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, as yet un-sampled except from in surface sampling, will exist in this area. This will likely only be defined through further exploration and particularly underground exploration.

### 13.10 Comparison to Historical Resources

A number of historical resources have been stated for Nalunaq over the life of the project. The most recent 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, 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.

# 14 MINERAL RESERVE ESTIMATES

A Mineral Reserve Estimate has not been declared for the Nalunaq gold project.

# 15 MINING METHODS

ARC is not currently engaged in any mining at Nalunaq. Details of previous mining methods used at Nalunaq (principally longhole open stoping) are provided in Section 5.4 and Section 0. The latter also includes conceptual options for future mining methods that would improve efficiency and control, and reduce dilution.

# 16 RECOVERY METHODS

No studies into mineral recovery methods have been completed by Nalunaq A/S.

# 17 PROJECT INFRASTRUCTURE

## 17.1 Introduction

Future infrastructure requirements will be dependent on the outcome of exploration and the nature of a future mining operation and what, if any, mineral processing is carried out on site. Therefore future requirements cannot be commented on meaningfully at this stage. The following sections provide an overview of existing infrastructure that is relevant to future operations.

## 17.2 Surface Infrastructure

Representing a substantial advantage for any exploration project in Greenland, the former minesite is connected to the coast by a 9 km long gravel road, previously used for access to the mine and for ore haulage between the mine and the harbour. This is in reasonable condition and allows access by 4x4 vehicle during the summer and early autumn (Figure 17-1). Only minor rehabilitation to the road surface is required where washouts have occurred. The road crosses rivers in two locations; one bridge remains near the harbour but the bridge over the Kirkespir River was removed when the mine was closed (Figure 17-2). This can be crossed by 4x4 vehicle unless the river is in spate. A new bridge will be required for future exploration programmes.

The jetty remains at the Nalunaq harbour and can be used for access by boat from Nanortalik or elsewhere (Figure 17-3).

**Figure 17-1 View of the lower part of the road to Nalunaq in late June 2016, in good condition at this point (source: SRK ES, 2016)**

**Figure 17-2 Former bridge location over the Kirkespir River where a new bridge will be required. Photographed in in late June 2016 (source: SRK ES, 2016)**

**Figure 17-3 The existing quay at Nalunaq harbour, photographed in late June 2016 (source: SRK ES, 2016)**

*The access road leading to the minesite can be seen, and the former ore stockpiling area is on the right hand side*

## 17.3 Underground Infrastructure

### 17.3.1 Ramp

The ramp allows access to all parts of the mine (expect currently the flooded South Block). It has been developed in the footwall and comprises a series of spirals and inclines with short crosscuts leading to ore drives. It connects to the surface via the 300, 350, 400, 450 and 600 Level portals, although access is currently only possible via the 300 Level portal. Ground stability conditions are good throughout the parts of the ramp inspected by SRK ES (all areas above 275 masl). The floor of the ramp has been built up with crushed material imported from outside, and in some places there are washouts that would need to be repaired in order to allow vehicle access.

### 17.3.2 Refuge and Egress

Temporary refuge stations exist underground but they may have been scavenged and may not be in working order. Therefore, new temporary refuge stations should be purchased and set-up near future working areas or, if appropriate, existing refuges can be refurbished.

There is currently only one point of egress at the 300 Level Portal. Future operations will require a second egress for safety reasons, and this could be provided without additional development (apart from removing materials blocking the portals) at the 350, 400, 450 or 600 Level portals.

Some long escapeways have been constructed in the mine, such as one that connects lower parts of the South Block to near the 300 Level. With some minor refurbishment to bring them back into use, these represent a substantial capital saving.

### 17.3.3 Ventilation

There is currently no functioning ventilation system in the mine and this will need to be installed prior to future exploration works. However, vent raises that connect to the surface appear to remain open and this allows natural ventilation in the mine to maintain good air quality. Air movement at the time of SRK ES' visits was from the top of the mine downwards. This does not negate the need for ventilation to be supplied to areas where new exploration work may take place.

#### 17.3.4 Power

The power distribution system that remains underground appears to be in reasonable condition, but has not been tested by Nalunaq A/S. Whilst the system could potentially be re-commissioned, it is recommended that power for underground exploration operations is provided by local generators.

#### 17.3.5 Piped Distribution Systems

The piped distribution systems that remain in the mine (compressed air, water, and dewatering) appear to be in reasonable condition. However, pipes and clamps are rusty in many areas, so it is anticipated that there could be numerous leaks once the systems are pressurised (the systems have not yet been tested by Nalunaq A/S). Typically, in the ramp there is 150 mm Victaulic groove pipe for compressed air, 50 mm Victaulic groove pipe for water, and 100 mm dewatering pipe (only located in some lower levels). Victaulic grooved pipes of various sizes (typically 50 mm) for compressed air and water are located sporadically within the ore drives. It may be possible to re-commission the dewatering pipes for the purposes of dewatering the South Block.

# 18 MARKET STUDIES AND CONTRACTS

This section is not applicable to this report.

# 19 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Following definition of Reserves at Nalunaq, ARC will need to submit a Bankable Feasibility Study to the Government of Greenland which must include an Environmental Impact Assessment, a Social Impact Assessment and an Impact Benefit Agreement. Mining can only commence once this BFS has been approved by the Government. ARC has not yet undertaken any environmental or social studies.

However, following closure of the Nalunaq Gold Mine in 2013, site monitoring has been carried out on an annual basis by the EAMRA, largely focusing on monitoring water quality but including floral and faunal sampling. As far as SRK is aware, no problems have been detected to date. Data obtained from these monitoring activities will be of value for use in future environmental studies.

# 20 CAPITAL AND OPERATING COSTS

This section is not applicable to this report.

# 21 ECONOMIC ANALYSIS

This section is not applicable to this report.

# 22 ADJACENT PROPERTIES

## 22.1 Introduction

The following properties are located close to Nalunaq and are described here for the purposes of illustrating other areas of mineral potential in the region. The author has not been able to verify the information presented below and the information is not material to the mineralisation in the Nalunaq project area. The locations of adjacent properties are shown in Figure 22-1.

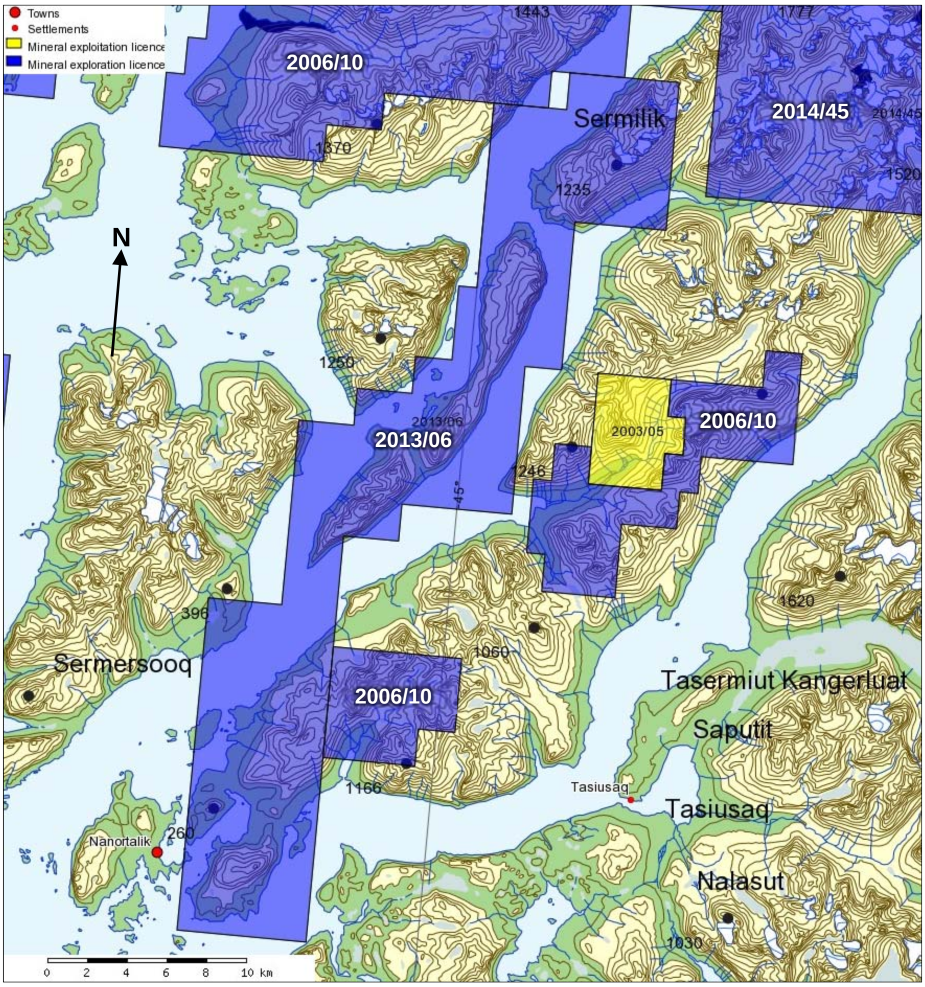


**Figure 22-1 Location of the Nalunaq exploitation licence 2003/05 (yellow) and adjacent exploration licences (source: MLSA 2016)**

*Note that licence 2006/10 is divided into three sub-areas as shown on the map*

## 22.2 Licence 2006/10 - NunaMinerals A/S

A sub-area of exploration licence 2006/10 owned by NunaMinerals A/S adjoins the Nalunaq exploitation licence to the east and south. As far as SRK ES is aware, NunaMinerals has not reported any significant exploration results in this area. However, historic work has identified gold showings in the Ship Mountain and Kirkespir Ridge area that lies within this sub-area. These include results with grades of up to 7 g/t gold in grab samples taken from quartz-veined calc-silicates and quartz veins in 1992 and 1993 (Robyn, 1993). As far as SRK ES is aware, sample locations have not been reported. These showings are significant in that the area lies along strike from the Main Vein in the Nalunaq Mountain, suggesting the possibility of mineralised extensions or other mineral deposits in the wider area.

## 22.3 Licence 2014/45 - LNS Greenland A/S

LNS Greenland A/S holds a 409 km$^2$ exploration licence (number 2014/45) that is centred about 30 km to the north-northeast of Nalunaq. As far as SRK ES is aware, LNS Greenland A/S has not reported details of any exploration in the licence. However, previous reconnaissance work has shown the presence of numerous gold and gold/arsenic anomalies in stream sediment as well as heavy mineral concentrates in the area (Steenfelt et al., 2016).

## 22.4 Licence 2013/06 - Obsidian Mining Ltd.

Centred about 10 km west of Nalunaq, Obsidian Mining Ltd. holds a 146 km$^2$ 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 bulk sampling of graphite and airborne geophysical surveys (www.albamineralresources.com [Alba, 2016]).

# 23 OTHER RELEVANT DATA AND INFORMATION

## 23.1 Geotechnical Assessment

### 23.1.1 Introduction

A geotechnical assessment was carried out during SRK ES' site visit in June/July 2016 alongside the assessment of remnant mining areas. The principal findings and outcomes are summarised here. Full details are provided in SRK ES' *Report on Remnant Mining and Geotechnical Assessments at the Nalunaq Gold Mine, South Greenland; Phase 1, 2016 Programme.*

The scope of the geotechnical work was to make an observational assessment of the current rockmass and excavation conditions, provide comments to compliment the mining assessment by SRK ES and identify any fatal flaws that would prohibit mining in certain areas.

Additionally, recommendations were provided with respect to safe access into and around the mine for the purposes of further inspection or exploration development. These were based on internationally accepted minimum standards for working in underground mining environments as well as information provided by former Chief Geologist Kurt Christensen and SRK's experience and engineering judgement related to the rock mass conditions and excavation stability.

Whilst rock conditions are good, Nalunaq does not currently meet international standards and the recommendations provided by SRK ES must be considered prior to embarking on any further underground work. A key outcome from the inspection is that Nalunaq A/S should not consider mining or entry into the areas that have excessive pillar damage/removal or multiple splayed footwall access drives. Furthermore, SRK ES considers pillar extraction to be high risk based on the current stability conditions. The ground control measures require engineering design and costing to compliment the potential ore recovery value assessment, and SRK ES' opinion is that this option may prove to be sub-economic.

Further detailed engineering assessment will be applied as required for future operations.

### 23.1.2 Current Ground conditions

In most places the in situ rock mass conditions are very good but, currently, the stability conditions of the underground mine are sufficient for inspection access only by competent persons who are well experienced in underground mining. Particular risk exists in stoped areas where no barricading has been installed, meaning that the drives are exposed to rockfall from above (Figure 23-1), especially due to vibration caused by machinery or additional water flow, and personnel may fall into stopes below.  Areas where pillar mining has taken place has resulted in significant spans (up to 33 m, Figure 23-2) and unacceptable hanging wall failure risk (Figure 23-3).

**Figure 23-1 Marginally-stable dislodged rock block in stope 490-07 above a stope drive (source: SRK ES, 2016)**

**Figure 23-2 Severe pillar damage, pillar loss and excessively wide spans below stope 510-24 resulting from pillar mining. The remaining rock material is not capable of holding any additional hanging wall load (source: SRK ES, 2016)**

**Figure 23-3 Significant hanging wall failure from stope 510-27 where rock slabs have fallen into the drive (source: SRK ES, 2016)**

### 23.1.3 Required Work for Further Activity

SRK ES has provided a set of recommendations in order to make the mine safe for further activities. Any further activity that involves any ground disturbance including heavy machinery access, additional mining or long term exposure (such as borehole drilling) will require a regimented mine-securing process to ensure personnel and equipment safety.

The recommended standard approach for support should be based on detailed assessment of the mine access plan. SRK ES has provided a preliminary approach as guidance for Nalunaq A/S to understand the potential type and scale of ground control works. This excludes areas with excessive pillar damage as it is deemed not possible or viable to enter and secure these areas due to poor ground conditions.

Figure 23-4 shows an example of protection options for drives along areas of open stopes, should access be required into such areas for future works.

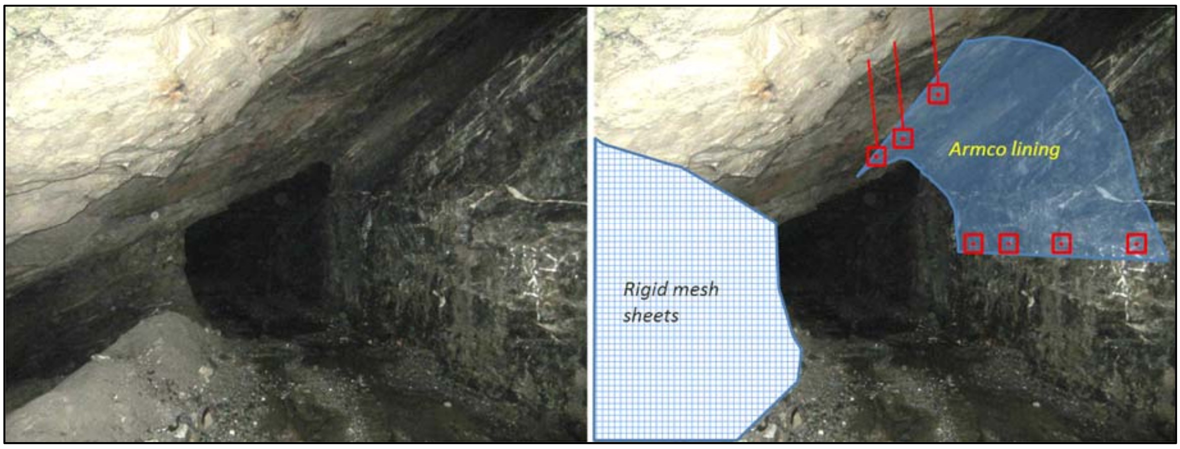


**Figure 23-4 Recommended minimum up and down dip barricading. Red symbols and lines represent rock bolts (SRK ES, 2016)**

# 24 INTERPRETATION AND CONCLUSIONS

## 24.1 Introduction

Nalunaq exhibits typical characteristics of a high grade, high nugget effect, narrow-vein orogenic gold deposit. The project benefits from a significant quantity of exploration data, a mining history and underground access which aids in the understanding of the mineralisation and the nature of possible additional resources.

The vast majority of reserves previously defined at Nalunaq (non-compliant) 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. Historical exploration, and particularly the work undertaken by Nalunaq A/S in 2015 and 2016, indicates the potential for the existence of significant additional resources.

## 24.2 Mineral Resource Estimate

SRK ES has produced a Mineral Resource estimate for the Nalunaq project based on the data available and the understanding of the geological model. The following tables constitute the December 2016 Mineral Resource estimate for Nalunaq separated by area. The compiled Mineral Resource statement is shown in Table 24-1, split between Inferred Mineral Resources in the area surrounding the current mine layout, and Inferred Mineral Resources for remnant material within the mine that could practically and safely be mined as part of a larger exploration or mining operation.

**Table 24-1 Nalunaq Diluted Mineral Resource as of 10 December 2016**

| Zone | Classification | Tonnage (t) | Grade (g/t Au) | Contained Gold (oz) |
|---|---|---|---|---|
| Remnant Material | Inferred | 18,900 | 27.6 | 16,770 |
| Mine Area | Inferred | 428,000 | 17.9 | 246,300 |
| **Total Inferred** | | **446,900** | **18.7** | **263,070** |

*Notes:*

1. *Remaining Stopes reported at 5.5 g/t gold, Mine Area reported at a cut-off grade of 5.5 g/t gold*
2. *Diluted to 1.8 m true width at 0.0 g/t gold*
3. *Cut off calculated using a gold price of USD 1,300/oz*
4. *Total refining, transportation and royalties costs of USD 50.00/oz*
5. *Total operating costs of USD 200/t*
6. *All figures are rounded to reflect the relative accuracy of the estimate*
7. *Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability*
8. *100% of the Mineral Resource is attributable to Nalunaq A/S*

Upgrading of the Inferred Mineral Resources in the "Mine Area" to higher Mineral Resource categories requires additional underground development and detailed sampling with robust QAQC procedures. 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. 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 of Nalunaq Mountain. Exploration data provides evidence for this potential, and SRK ES has defined an Exploration Target for the project.

## 24.3 Exploration Target

SRK ES has extrapolated their estimate from the Mine Area out across the rest of the known MV as well as down-dip below the South Block based on historic surface diamond drilling and channel sampling as well as the newly acquired surface samples in 2015 and 2016 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.

SRK ES has outlined an Exploration Target of 80 koz gold to 1.2 Moz gold contained within 1 Mt to 2 Mt grading between 2.5 to 19.0 g/t gold.

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 in this area and SRK ES cautions that there is a risk that further exploration will not result in the delineation of a Mineral Resource.

### 24.3.1 Future Definition of Mineral Resources

From their geological review, SRK ES expects that some form of higher grade mineralisation in the MV structure, as yet un-sampled except from in surface sampling, will exist in the Exploration Target area.

The identification of Mineral Resources in this area is subject to the characteristics of a high grade, high nugget effect, narrow-vein gold deposit as found at Nalunaq; as such the project shares challenges in resource definition and conversion to higher Mineral Resource categories or Reserves that are common with this style of mineralisation. Diamond drilling from surface and particularly from underground is required to define structural continuity but, due to volume variance issues in a high nugget effect environment, further exploration may only result in Mineral Resources at an Inferred level of confidence. Resource upgrading will require underground development on the MV in the form of raises and drives that have been targeted via exploration drilling from footwall drives. As demonstrated by previous operations, a heavy reliance of exploration drives on the mineralised structure should be avoided due to the risk of deviating from the structure.

## 24.4 Structural Interpretation

On a local scale the MV structure is continuous for over 2,000 m up-dip and over 1,000 m along strike, and its position can be predicted with reasonable confidence. However, on a smaller scale within the structure itself there is considerable complexity that has resulted from, in SRK ES' opinion, three phases of deformation on the MV structure (pre-mineralisation shearing and post-mineralisation thrusting and shearing) followed by disturbance of the structure by late-stage faulting. Whilst several of these faults were well-known to previous operators, SRK ES believes that there are additional faults that, whilst possibly only causing small offsets, were not adequately accounted for during mine development and production and therefore resulted in deviations of the ore drives off the MV structure. These findings and opinions are discussed in more detail in Section 8.6.

Based on SRK ES' underground observations, surface structural measurements and modelling of the MV structure from historic drilling and sampling data, SRK ES has interpreted a new structural model for Nalunaq. This includes new interpretations of faulting and accounts for many of the previously known faults. An overview of this is shown in Figure 24-1. Attention is drawn to three faults in particular:

***Fault A***

This east-west trending fault has been interpreted along the southern sides of the Target Block and the South Block. In the Target Block and upper parts of the South Block, faulting has been observed and fault attitude measured on a number of levels. This may exist as a composite fault system that, together, result in incremental offset of the MV structure, with the MV having been thrown up on the southern side of the fault. This fault is important since it has likely resulted in the MV being lost in the strike drives and original exploration drives which continue at the same level despite the MV having been offset upwards. The vertical offset on this fault (or fault zone) is not fully understood and requires further study but, based on its the position and measurements of the MV structure where it crops out on the southwest side of the mountain, SRK ES interprets a collective offset of up to 20-30 m (Figure 24-2).

The interpretation of this fault up- and down-dip of the Pegmatite Fault allows the lateral displacement of the Pegmatite Fault to be estimated. Based on SRK ES' model, the sense of movement is dextral and the displacement is about 80 m.

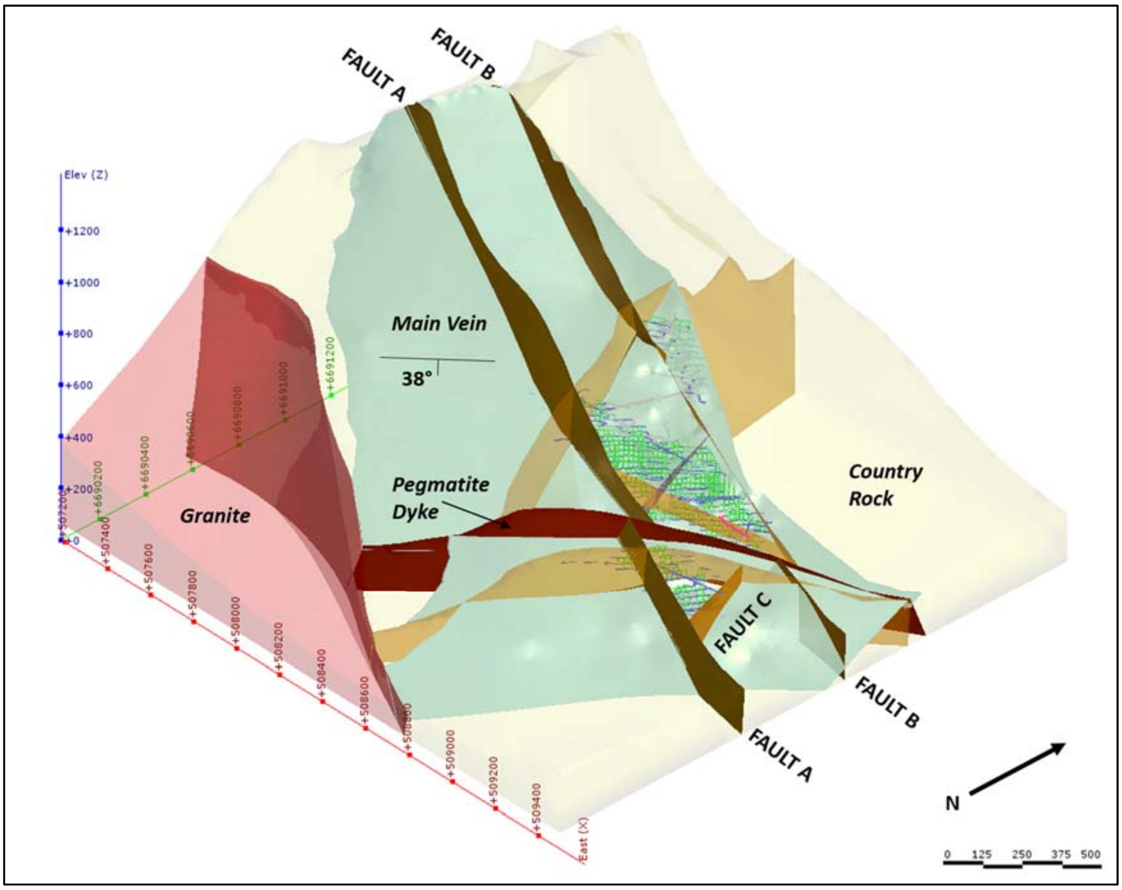


**Figure 24-1 New interpreted structural model for Nalunaq with faults discussed in Section 24.4 labelled (source: SRK ES, 2016)**

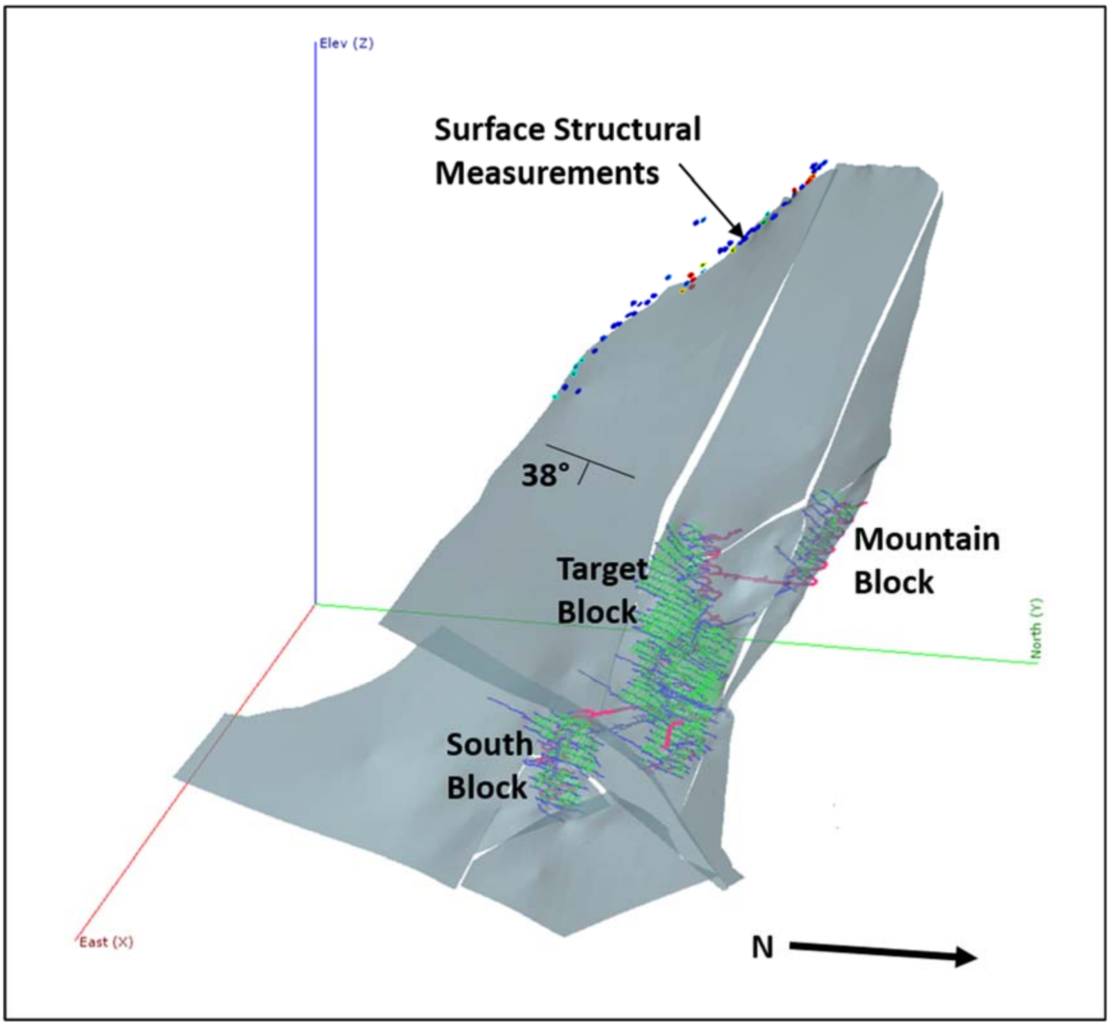


**Figure 24-2 Simplified model of the Main Vein structure showing interpreted vertical offset along faults (source: SRK ES, 2016)**

***Fault B***

This east-west trending fault is interpreted to run parallel to Fault A and is observed in drives on the southern side of the Mountain Block and the northern side of the Target Block, just beyond the area in which Alimak mining was attempted. SRK ES interprets that this could have caused the MV structure to be lost in the strike drives due to vertical offset in a similar fashion to that along Fault A. It is possible that this fault is seen on the western face of Nalunaq Mountain where a sub-vertical feature shows good agreement with the extrapolated crop out position of the fault in this area (Figure 24-3).

***Fault C***

This has been interpreted on the northern side of the South Block and is based on a number of high gold grade drill intersections (e.g. between 3.2 g/t gold over 0.40 m and 12.4 g/t gold over 0.50 m)to the northeast of the interpreted fault. These define a coherent plane that is interpreted as the MV but has been vertically offset by around 20 m compared to the section of the MV that was mined in the South Block (Figure 13-4). This is significant as it represents a robust exploration target that could be accessed relatively easily from the lower parts of the ramp in the South Block, once the area has been dewatered.

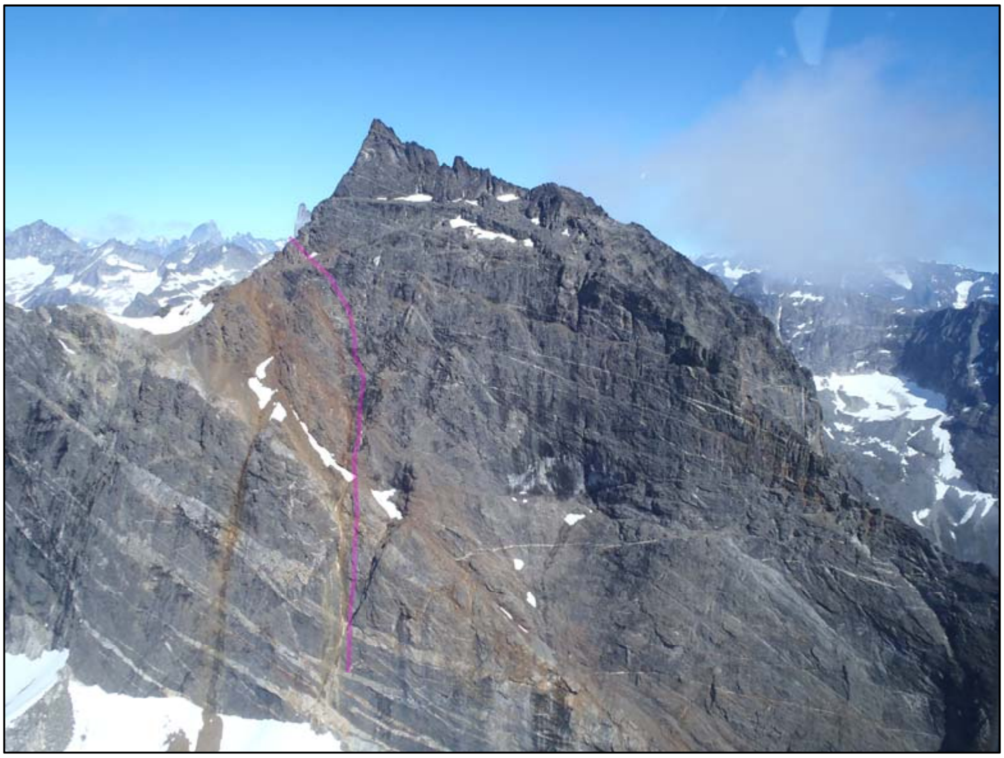

**Figure 24-3 Pink line showing possible surface expression of Fault B on the west face of Nalunaq Mountain (source: SRK ES, 2016)**

## 24.5 Remnant Mining Opportunities

Following underground inspection and geotechnical assessment, SRK ES has defined a small tonnage (approximately 25,000 tonnes grading 22.5 g/t gold) of in-situ material within the existing mine areas that could potentially be safely and practically mined assuming an economic analysis indicates profitability, albeit with some additional development required to access these areas, bypassing areas of open stoping.

In addition to the remnant in-situ mineralisation, an accumulation of gold-bearing sweepings exists that represents an additional opportunity for extraction. Assuming a range of 50% to 75% of the strike drives are accessible and between 50 mm to 300 mm of sweepings has accumulated on the floor, the tonnage may range from 1,000 tonnes up to 10,000 tonnes. As mentioned in Section 8.9.3, it is anticipated that the grade of the material should be similar to the historic mined grades.

Extraction of this remnant material is unlikely to be economically viable as a standalone option, but could be considered once infrastructure, logistics and equipment are in place as part of a larger exploration effort of mining operation.

## 24.6 Project Risks

All exploration projects carry inherent risk; risk factors specific to exploration in high nugget effect gold deposits such as Nalunaq are described in Table 24-2, together with some additional risks associated to the project. These are risks that are relevant to the current exploration status of Nalunaq, rather than potential future mining operations.

**Table 24-2 Nalunaq project exploration risks**

| Factor | Comments |
|---|---|
| Resource Definition | The future of the project depends on the definition of sufficient new Mineral Resources. Whilst an 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. |
| 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 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. The costs of logistics and staffing are high. The climatic conditions allow a relatively short period for surface exploration activities, although this should not affect underground exploration. |
| Project Terrain | The former mine and areas of exploration potential lie within a steep mountain. Regularised surface diamond drilling for structure is impractical in many parts, resulting in a greater reliance on underground exploration. |
| 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 01/01/2021, 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. |

# 25 RECOMMENDATIONS

## 25.1 Exploration Recommendations

### 25.1.1 Introduction

In order to advance the Nalunaq Gold project toward the Company's ultimate goal of a producing mine, an exploration programme must be completed to delineate, with confidence, sufficient resources to support sustained production beyond the existing mine area. This involves the confirmation of resources within up-dip and along strike areas of the MV structure. The evidence for which has been supported by surface sampling campaigns that have shown the presence of the MV structure on the north, west and southwest sides of the mountain and confirmed that it is still mineralised.

It is recommended that the bulk of this exploration be carried out using underground footwall drives and underground drilling from the upper parts of the Target and Mountain Blocks. Previous underground exploration involved the development of strike drives on the MV based on irregular and sometimes sparse surface drilling data. As has been shown, it is difficult to react to changes in geometry and the position of the MV when developing on the MV structure itself, and the drives provide a poor platform for underground drilling. In contrast, the planned footwall drives will allow drilling to be undertaken at regular intervals and each drill station will provide multiple intersections of the MV, thus allowing better interpretation of the structure and increasing the possibility of defining resources.

Additional resources are also likely to exist below and around the South Block. This area needs to be dewatered prior to any underground work. Because of this and due to the greater accessibility of the area, a programme of surface diamond drilling has been planned.

It must be remembered that due to the inherent difficulties of exploration in coarse-grained, nuggety gold systems, any type of drilling is not likely to define resources beyond an Inferred classification. Detailed sampling or bulk sampling from drives or raises on the MV structure will be required to achieve this.

Also, to ensure a more successful mining operation than in the past at Nalunaq, should an economic resource be found, a desktop investigation should be competed. This should be aimed at identifying and defining mining methods that would improve on the results of the historic longhole open stoping.

There is potential for small-scale remnant mining at Nalunaq. SRK ES recommends engaging mobile equipment and processing equipment fabricators and mining contractors to understand the costs of remnant mining and to complete a Provisional Economic Assessment on this option.

The estimated 'global' costs associated with completing these recommendations are outlined below:

- Underground Exploration Programme: CAD 11,000,000
- Surface Diamond Drilling: CAD 740,000
- Surface Reconnaissance and Sampling CAD 150,000
- Mining Method and Remnant Mining Investigation: CAD 67,000

Costs have not yet been included for logistical arrangements in support of the programmes or for technical studies arising from the exploration results.

The cost for the underground exploration programme is all inclusive (i.e., includes direct and indirect operating costs, mobile equipment purchase costs, and facilities purchase and installation costs). The exploration programme, if the two proposed footwall drives are driven one face at a time up to the total proposed length, is expected to require 40 months to complete. The cost and schedule have been assembled based on detailed design and estimates conducted by the Company, SRK ES, and mining contractor Technica Group Inc.

### 25.1.2 Underground Exploration

The goal of the exploration programme is to substantially increase the Mineral Resources at Nalunaq in areas up-dip and along strike from the existing mine area. The programme is initially planned to include two 950 m long footwall exploration drives, one developed off the top of the Target Block ramp and one off the top of the Mountain Block ramp (Figure 25-1). They will be oriented parallel to strike and will stretch most of the way to the MV outcrop on the southwest flanks of the mountain as identified in the 2016 surface sampling. The drives will also extend across the ground between the Target and Mountain Blocks; there is currently limited exploration data in this area and no clear reason why the MV should not extend across it.

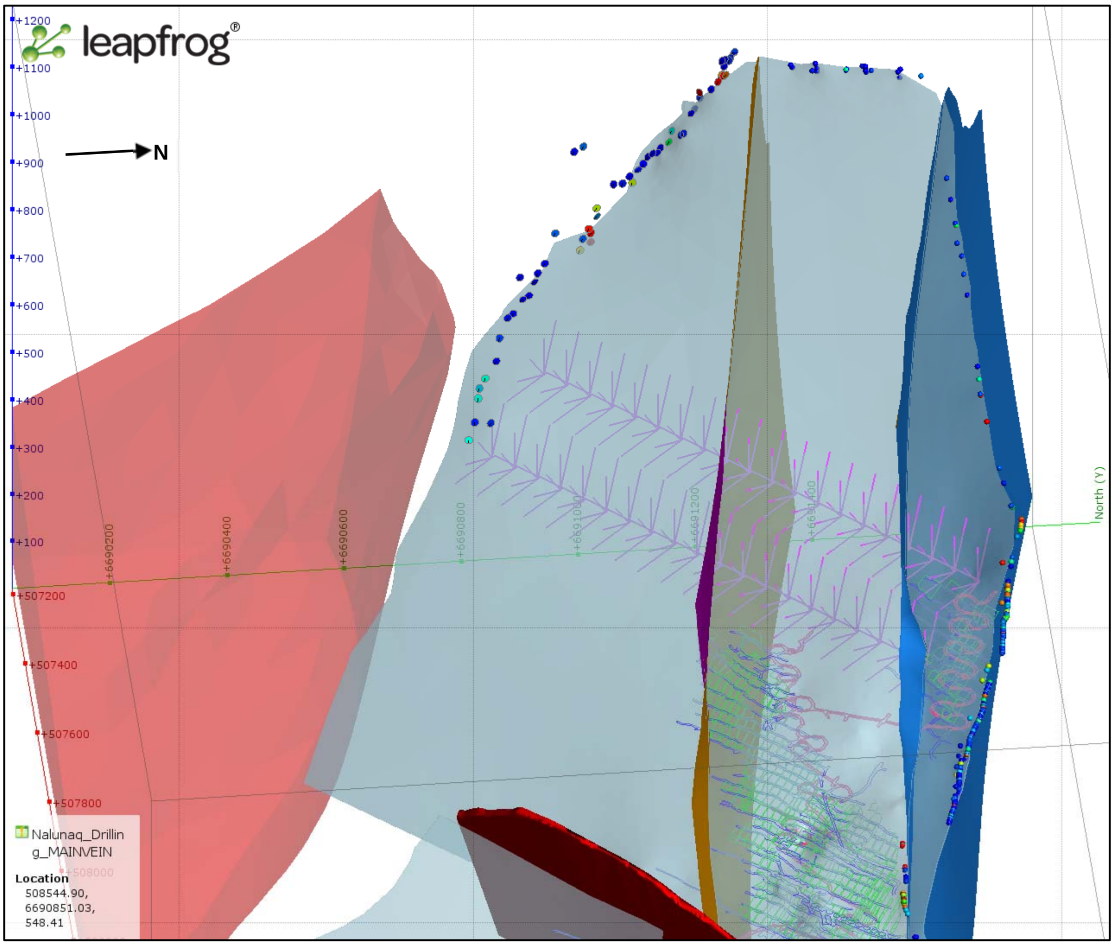


**Figure 25-1 3D image showing the positions of the proposed FW exploration drives and the underground drilling from them (source: SRK ES, 2016)**

*The length of each drive is 950 m*

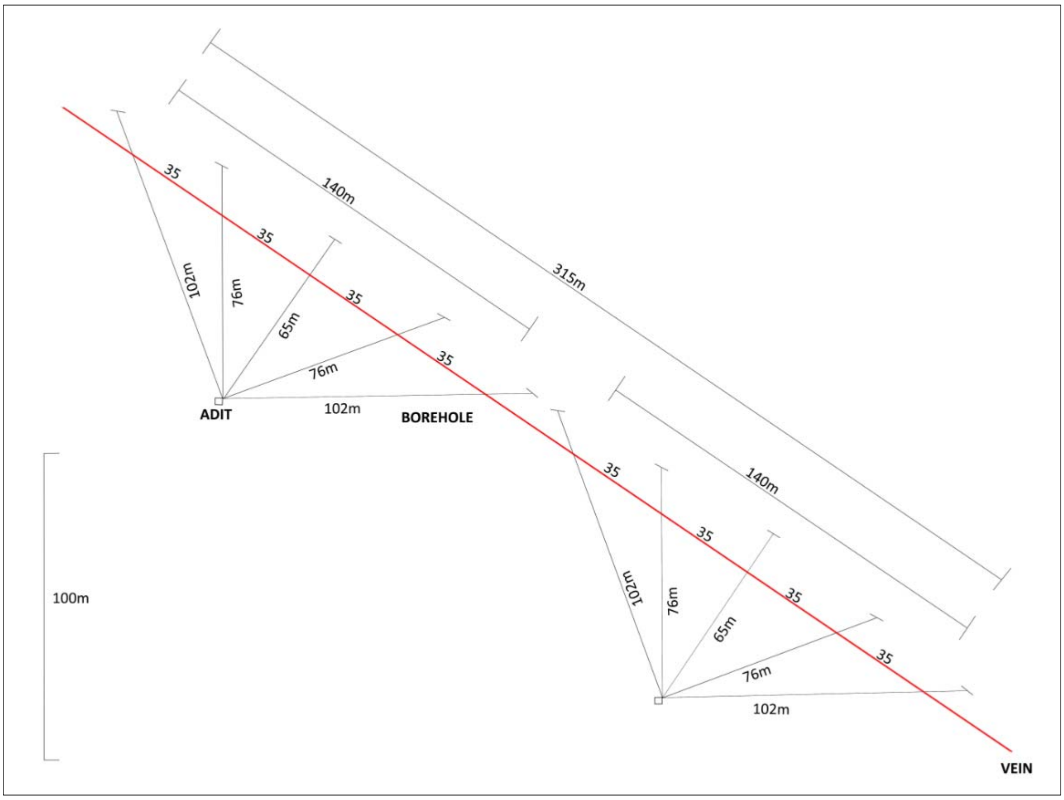


**Figure 25-2 Schematic cross-section of proposed underground drilling from FW exploration drives, with drillholes emanating from the drives (source: SRK ES, 2016)**

*The MV structure is shown as the red line, depicted with a dip of 36°. Lengths of drillholes are shown, with 35 m intervals between MV intersections*

The drives will be set at a 'true thickness' distance of 50 m into the footwall, perpendicular to the MV structure. Along these drives, diamond drilling stations (or "cubbies") will be cut on 50 m centres and with drilling taking place in a fan pattern back towards the MV (Figure 25-2). Drilling five holes between the horizontal and an angle of 20° beyond vertical should allow intersections of the MV every 35 m, assuming that the structure dips at 36°. Thus, each set of fan drilling would allow up-dip coverage of 140 m. Spacing the footwall drives 100 m apart vertically should allow 315 m of coverage up-dip. Diamond drilling will commence from every second station, with infill drilling planned following identification of the MV.

Rather than committing to the full 1,000 m long drives at the outset, it is recommended that they are developed in a step-wise fashion in order to remain cost-effective, with development and drilling alternating between the Target Block and the Mountain Block. According to estimates from Technica Mining, the footwall drives could be developed at a rate of about 4 m per day.

It should be remembered that, as observed in the current mine area, it is likely that exploration will encounter some parts of the MV structure that do not host quartz veining. Furthermore, as historically shown at Nalunaq, diamond drilling intercepts are not likely to be fully representative of in-situ gold grades and may generally be lower. These are normal risks associated with exploration in high nugget effect gold deposits, especially with a deformation history such as that found at Nalunaq. Thus, whilst diamond drilling can provide a robust indication of the MV structure, representative grades will only be obtained from larger samples on-reef.

***Targeting Additional Structures***

Previous surface drilling at Nalunaq resulted in an unusually long intersection of gold mineralisation deep in the footwall in the Mountain Block area. Quartz-scheelite veining was observed in hole NQ158 over 5.80 m from a depth of 347.47 m with gold grades of up to 5.10 g/t over 0.70 m in the centre of this intersection. This indicates that further mineralised structures, possibly parallel to the MV, cannot be ruled out although a similar intersection was not encountered in the adjacent drillhole (NQ161). This feature could easily be targeted by drilling downwards for around 70 m from the footwall exploration drive proposed at the top of the Mountain Block (Figure 25-3).

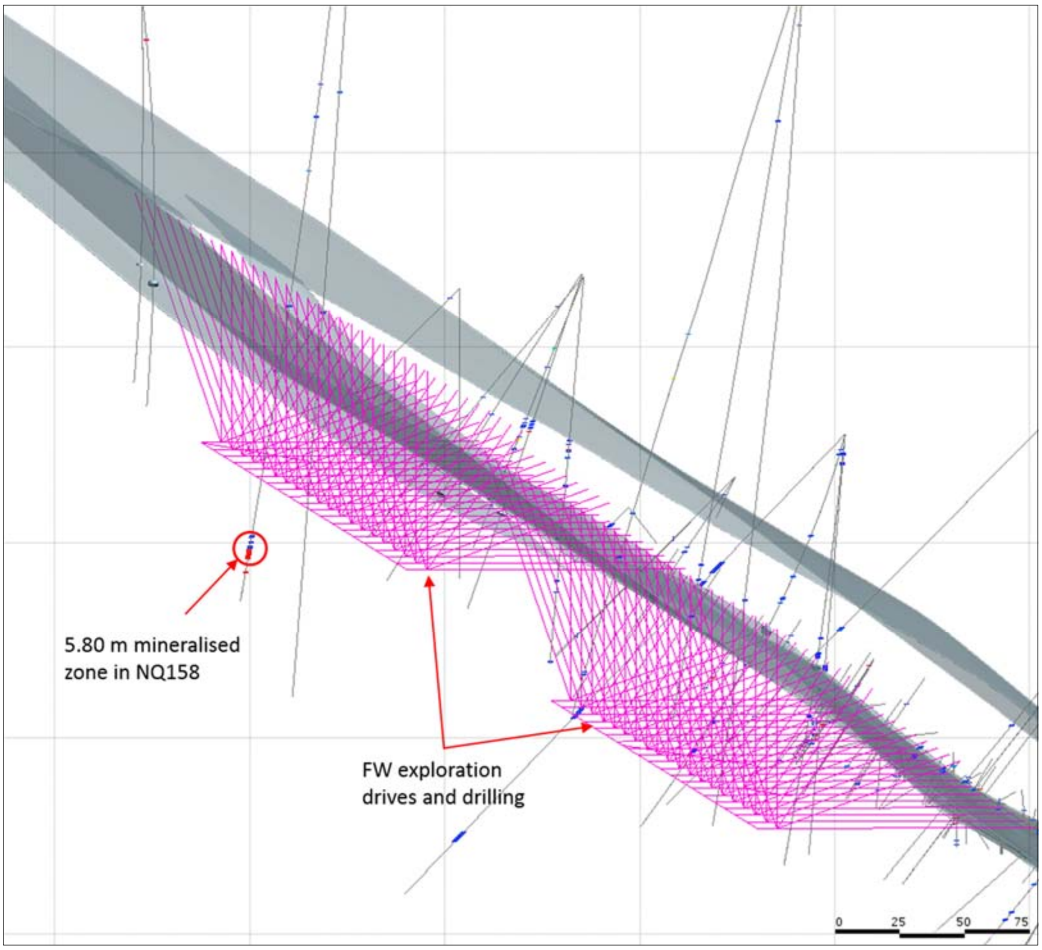


**Figure 25-3 3D projection showing the location of mineralisation intersected in the FW in NQ158 showing its proximity to the proposed Mountain Block FW exploration drive (source: SRK ES, 2016)**

***Ancillary Works***

To support the exploration program, other mine rehabilitation and ancillary work is required, including:

- Rehabilitate primary access at the 300 Level portal;
- Reopen secondary access portal as an emergency egress at 600 Level;
- Establish a temporary ventilation system to provide fresh air to the exploration drives;
- Regrade washouts in the ramp from the 300 Level portal to the exploration drives;
- Setup localised power and compressed air generation and a process water recycling sump box underground near the exploration drive accesses.

### 25.1.3 Surface Sampling

Further work is recommended on the lower parts of the sampling profile that was undertaken in 2016. As mentioned in this report, it is possible that the MV structure was lost in this area due to scree cover, deviation of the structure or of the profile, or because it has pinched out. It is also possible that it exists as a low grade part of the MV. Further reconnaissance and sampling is required to confirm the presence of the structure here and whether it is still mineralised.

An additional objective of this work could be to identify whether there are mineralised structures parallel to the MV at higher elevations. There are indications of this in the historic drilling data in areas south of the Target Block: Hole NQ96 shows an intersection of 22.60 g/t gold in a 0.54 m sample located 89 m above the expected plane of the MV. Hole NQ163 shows an intersection of 175.00 g/t gold in a 0.51 m sample located 105 m above the MV. The up-dip separation between these intersections is 368 m, roughly paralleling the MV. Investigations into this would require the line of intersection of this suspected feature with the mountain surface to be estimated and this area accessed by mountaineers.

Much of the lower parts of the 2016 sampling profile are in less severe terrain and therefore it is possible that an appropriately trained geologist could accompany the mountaineers for work in this area.

### 25.1.4 Surface Diamond Drilling

Surface diamond drilling is recommended in lower parts of the mountain where access and logistics are more practical than in upper, steeper areas. Upper areas are best targeted via footwall exploration drives and underground drilling as previously described. The surface drilling proposed here is to maintain exploration progress in lower areas whilst the underground exploration proceeds.

A total of 17 boreholes have been designed from 9 drill pads (Figure 25-4) for a total of 3,140 m. Five of these pads in the South Block area are on, or very close, to existing mine roads and thus will require only minimal preparation. All drill pads that are not located on or near the roads will require access and rig deployment by helicopter, and drill pads will need to be prepared in advance. Blasting may be required to create platforms in steeper areas, particularly in areas southwest of the Target Block (pad TBW).

Holes from each pad will be drilled vertically and at inclined angles such as to intersect the MV structure at two points (Figure 25-5). A drilling diameter of at least NQ is recommended.

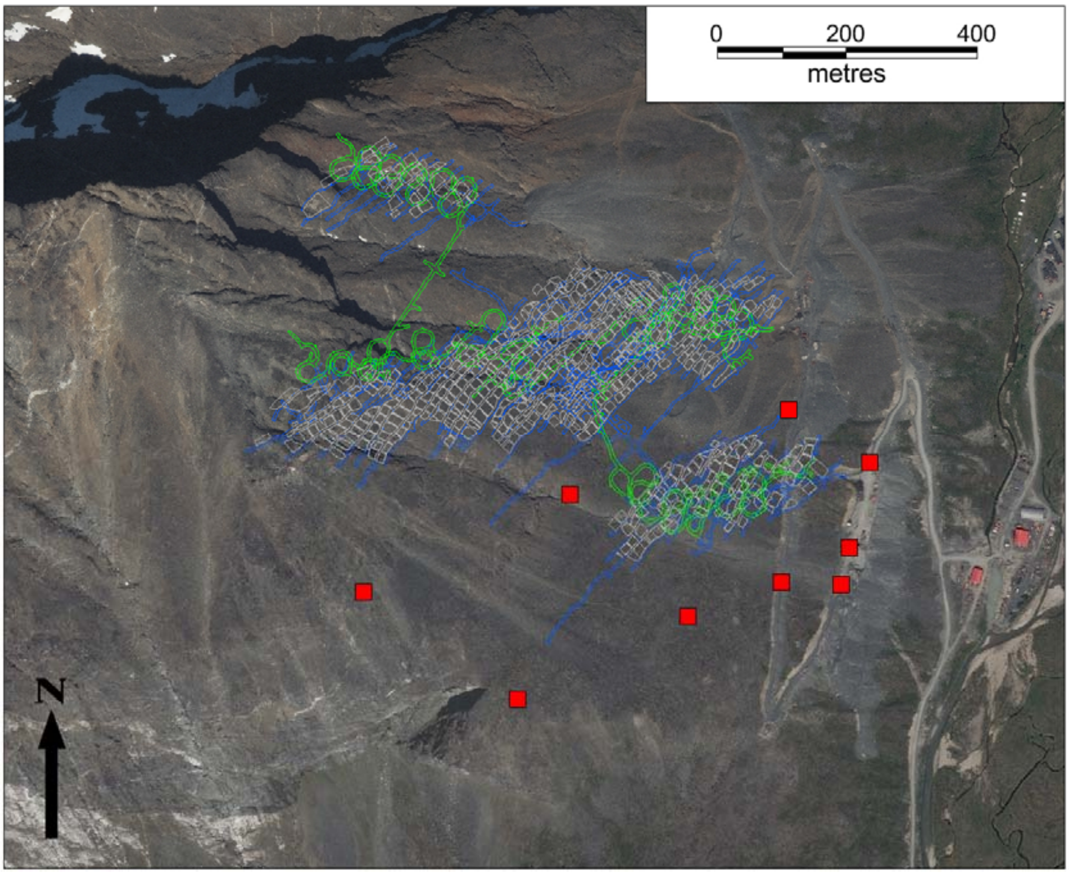


**Figure 25-4 Proposed drill pad locations (red squares) for surface diamond drilling (source: SRK ES, 2016)**

***South Block***

The purpose of most of these 13 drillholes will be to confirm continuity of the MV down-dip below the South Block. Whilst there is historic drilling in this area, there are some gaps in drill coverage that need to be filled. Drilling is also recommended at locations along strike which will have the advantage of testing potential structural offsets either side of interpreted faults, and will attempt to target a potential mineralised zone intersected on the south-western reaches of the 300 Level and in historic hole NQ-81. The drilling location on the northern side of South Block should complete a significant gap in historic drilling coverage in an area that is close to the existing drives.

***Target Block***

Four boreholes have been designed in exploration areas to the south of the Target Block. The objective of holes TBSW1 and TBSW2 is to test up- and down-dip continuity of a high grade zone in the 350 Level, and to test the interpretation that the MV continuity is in the hanging wall above the drive. Holes TBW1 and TBW2 are designed to test strike continuity of the MV into this area and to further investigate the high grade intersection in historic hole NQ163 (175 g/t over 0.51 m from 106.44 m).

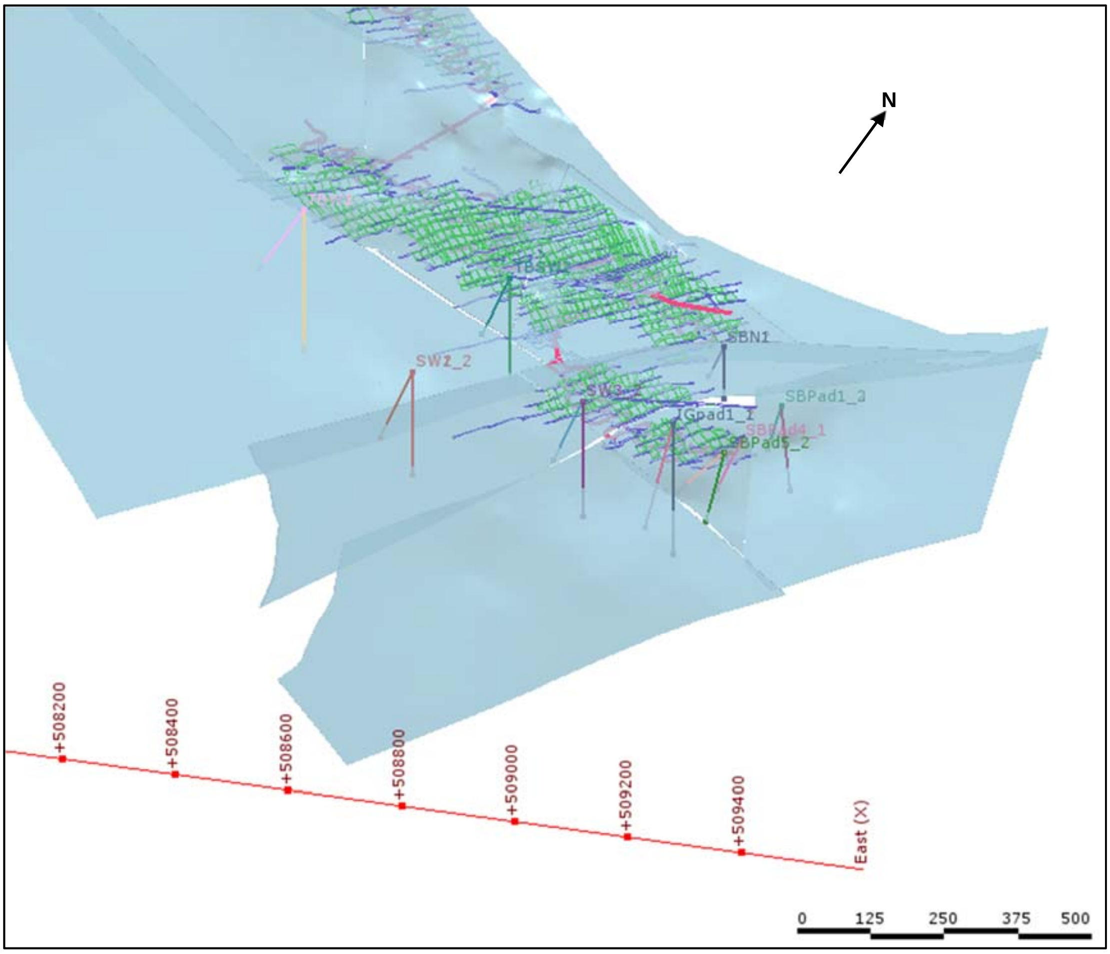


**Figure 25-5 Layout of proposed surface diamond drillholes shown in 3D relative to the existing mine excavations and the modelled Main Vein surface (source: SRK ES, 2016)**

Details of the proposed drillholes are provided in Table 25-1.

**Table 25-1 Proposed Surface Drilling Sites (source: SRK ES, 2016)**

| Hole Number | Block | WGS84 UTM Zone 23 mE | WGS84 UTM Zone 23 mN | Elevation | Length, m | Azimuth | Dip |
|---|---|---|---|---|---|---|---|
| SBPad1-2 | South | 509176 | 6691083 | 303 | 110 | 310 | -68 |
| SBPad1-3 | South | 509176 | 6691083 | 303 | 150 | 135 | -78 |
| SBPad4-1 | South | 509145 | 6690951 | 300 | 150 | 310 | -59 |
| SBPad5-2 | South | 509131 | 6690894 | 304 | 170 | 310 | -70 |
| SBPad5-3 | South | 509131 | 6690894 | 304 | 200 | 310 | -44 |
| IGpad1-1 | South | 509039 | 6690898 | 342 | 250 | 0 | -90 |
| IGpad1-2 | South | 509039 | 6690898 | 342 | 250 | 310 | -70 |
| SW1 | South | 508631 | 6690717 | 476 | 200 | 0 | -90 |
| SW2 | South | 508631 | 6690717 | 476 | 200 | 310 | -60 |
| SW3 | South | 508894 | 6690846 | 392 | 220 | 0 | -90 |
| SW4 | South | 508894 | 6690846 | 392 | 180 | 310 | -60 |
| SBN1 | South | 509050 | 6691166 | 355 | 100 | 0 | -90 |
| SBN2 | South | 509050 | 6691166 | 355 | 90 | 310 | -60 |
| TBSW1 | Target | 508711 | 6691035 | 506 | 210 | 0 | -90 |
| TBSW2 | Target | 508711 | 6691035 | 506 | 170 | 310 | -60 |
| TBW1 | Target | 508391 | 6690883 | 667 | 220 | 310 | -52 |
| TBW2 | Target | 508391 | 6690883 | 667 | 270 | 0 | -90 |
| **TOTAL** | | | | | **3,140** | | |

## 25.2 Exploration Logistics

It is recommended that any future exploration at Nalunaq is undertaken from a camp either at the minesite or in the form of a boat moored at the Nalunaq harbour with cooking and sleeping facilities. This applies both to the exploration programme described herein as well as any other shorter-term technical or reconnaissance work. An exploration base at any other location will result in delays to the programme due to additional travel time and, in the event of poor weather conditions, and resultant transport problems. Given some refurbishment, the existing 9 km long access road will allow efficient daily access to and from the mine site using 4x4 vehicles if a boat is used at the harbour.

## 25.3 Mining Method Alternatives

SRK ES has considered various options for future mining methods at Nalunaq. This review is of course conceptual at this stage but is presented in order to show that more efficient mining with better control and less dilution may be possible compared to previous operations at Nalunaq. A final decision on mining methods will depend on the location, nature and magnitude of resources, if identified through exploration.

### 25.3.1 Historic Mining Methods

Historic production at Nalunaq Gold Mine was achieved via longhole open stoping methods (Figure 25-6). Strike drives spaced every 10 m vertically were developed along the Main Vein. Stopes were designed at 15 m along strike separated by 1.5 m wide pillars to provide overall hanging wall stability. A conventional raise was driven between the strike drives to confirm grade continuity along dip and to provide a positive opening in which to slash the production longholes. Drilling was completed up dip with breakthroughs checked in the top strike drive to ensure accuracy. Given the 30° to 40° shallow dip of the vein, muck flow was challenging and encouraged by washing the stope footwall. The planned true mining width was 1.4 m; however, records indicate that the estimated break ranged from 1.2 m to 2.4 m with substantial overbreak often occurring in either or both the footwall or hanging wall.

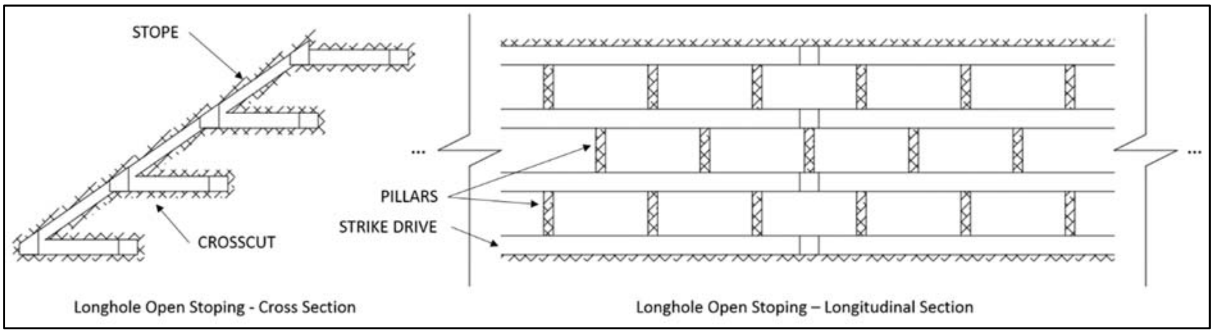


**Figure 25-6 Schematic diagram of historic longhole open stoping mining method used at Nalunaq (source: SRK ES, 2016)**

Although this mining method functioned, production was not ultimately successful from an economic point of view. Alternate methods should be more selective to reduce dilution and increase recovery while maintaining sufficient throughput to support the indirect costs associated with operating in a remote, near-Arctic location. Besides the obvious advantages of reduced dilution, SRK ES anticipates that the underground mill and tailings management facility would not be used for the next phase of mining at Nalunaq, thus higher grade, lower tonnage product will lessen external processing and shipping charges. SRK ES proposes investigating room and prop mining and resue cut and fill mining methods.

### 25.3.2 Room and Prop

The room and prop method would be similar to that used in South African reef mining (Figure 25-7). Stopes would be accessed via crosscuts on 50 m centres from footwall exploration drives spaced 100 m vertically. In line with each crosscut, a raise would be driven up-dip to provide multiple access points and flow through ventilation for the stopes and to act as a central scraper gully. Mining would most likely advance overhand from the central scraper gullies using handheld drills and auxiliary scrapers. Ore would be scraped to ore passes for final rehandle by load-haul-dump equipment ("LHD") in the crosscuts. To permit greater recovery and maintain safe working conditions without backfill, the hanging wall would be bolted and reinforced concrete props would be installed on a regular pattern. It is expected that rib pillars would be required to provide mine-wide stability.

This method is labour intensive, but eliminates mechanised equipment and its associated design requirements within stoping. Thus it is anticipated that the minimum mining true width can be reduced and controlled consistently at 1.5 m. The method also greatly reduces the number of levels compared to the longhole open stoping method, but would be strongly reliant on accurate exploration data from footwall exploration drives as described in Section 25.1.2.

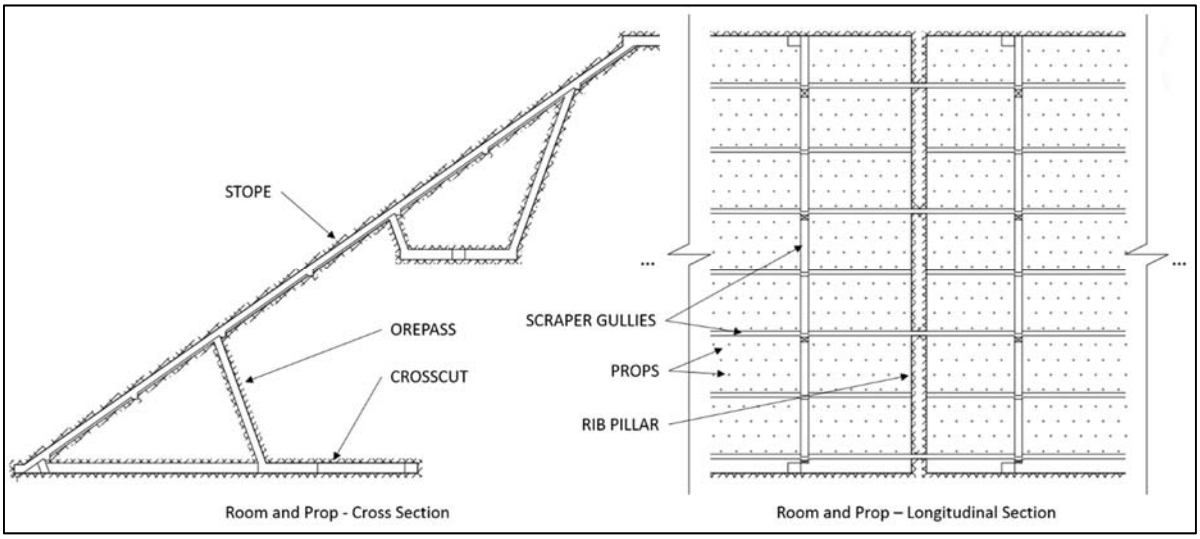


**Figure 25-7 Room and prop mining method (source: SRK ES, 2016)**

### 25.3.3 Resue Cut and Fill

Cut and Fill mining methods are commonly used in deposits where selectivity is required on a round-by-round basis. Resuing (two phase blasting and mucking) enables greater selectivity with minimal dilution compared to typical single phase cut and fill mining (Figure 25-8). The stopes would be accessed from a short central access drive spaced 15 m vertically. The initial sill cut would be excavated out to the extremities of the economic vein and an internal stope ramp would be driven to connect to the sill cut in the stope above. First, successive cuts below the ramp would be excavated, accessed from the lower sill cut. Once mining is completed below the ramp, mining would progress above the ramp, accessed from the upper sill cut. Narrow vein jumbo drills and LHD equipment would be used within stoping to provide mechanised mining productivities. Material generated during the waste blasting and mucking phase of mining would be placed in completed cuts to provide passive hanging wall support, permitting greater recovery.

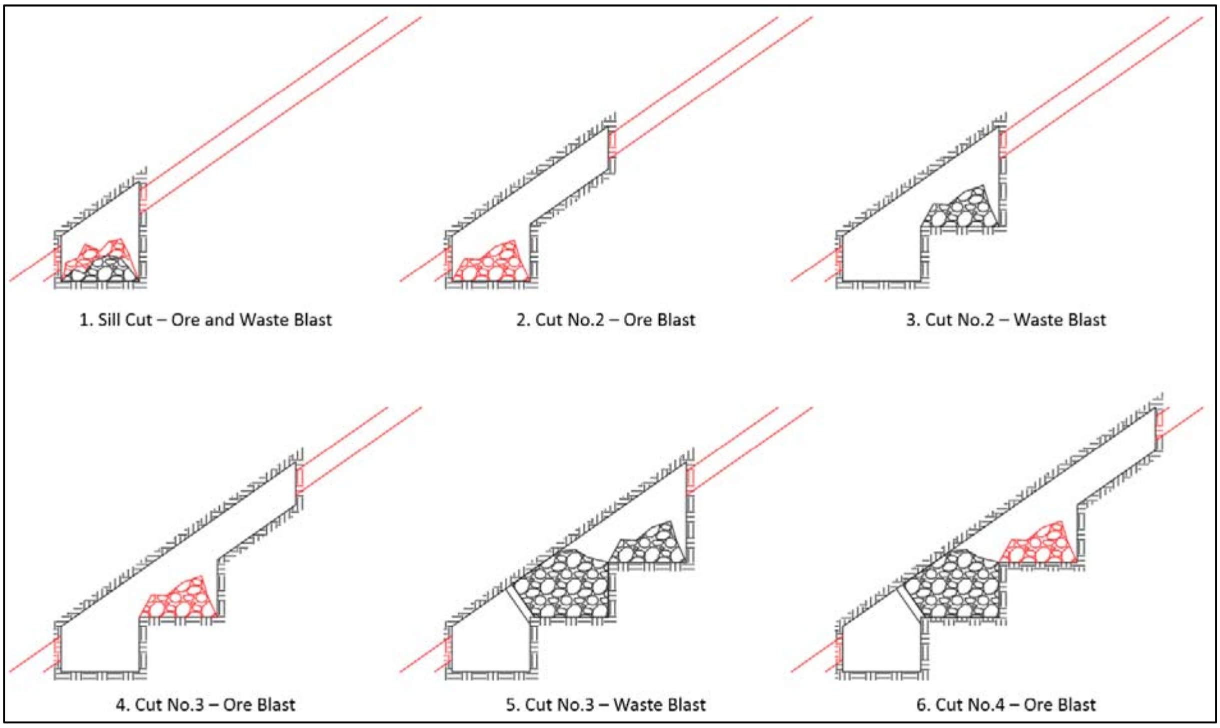


**Figure 25-8 Resue cut and fill method (source: SRK ES, 2016)**

### 25.3.4 Mining Method Trade-off Study

As stated, SRK ES anticipates that a more selective mining method would provide better economic results than the historic performance using longhole open stoping methods. It is recommended that a comparison of alternative mining methods should be carried out based on a conceptual mine design, grade assumptions and productivity assumptions. This will allow the relative productivity per mining area and relative cost per ounce of gold to be estimated for the purpose of future mining method selection. Such comparisons will, at this stage, be conceptual in nature and must be refined based on the outcome of exploration and confirmation of the nature of the mineralised feature, if present. At this stage, they should not be used for the purposes of production forecasting or economic forecasting at Nalunaq.

SRK ES recommends that, eventually, a more rigorous investigation be conducted, complete with a geotechnical analysis to ensure ground support requirements are sound. Furthermore, if the investigation confirms the preliminary comparison, it is recommended that test stoping be completed following a successful exploration programme to optimise the alternate mining methods in practice. The cost of test stoping will depend on quantity of material delineated during the exploration programme.

## 25.4 Remnant Mining

SRK ES has conducted underground site visits during the summer seasons of 2015 and 2016 to assess the condition of the mine excavations and infrastructure as well as identify the potential for remnant mining within and directly adjacent to historic stoping areas. Several opportunities were identified, including pillars, unmined stopes, and sweepings as discussed in Sections 8.8 and 8.9.

### 25.4.1 Pillars and Unmined Stopes

Just over a dozen pillar and unmined stoping areas were determined to have minimal rehabilitation or development requirements for production. Rehabilitation includes check scaling and spot bolting as required. Approximately 10 open stopes should be backfilled with waste rock (10,000 tonnes) or blocked with secured steel or cement barriers to eliminate inadvertent entry of personnel and equipment as well as to mitigate losses due to fly rock entering inaccessible down dip excavations.

Some underground development will however be required. This is to provide bypass access to unmined stopes beyond substantial open stoping areas or poor ground conditions, and the total requirement is estimated to be 1,000 m.

There is one mining area that should be mined from surface due to extensive exposure to up- and down-dip open stopes and poor ground conditions if accessed from underground. However, acceptance of surface mining by the Government of Greenland must be further examined to understand the environmental and aesthetic sensitivities.

### 25.4.2 Sweepings

Sweepings recovery is an opportunity and a unique challenge that would require custom mining gear to be designed and built to recover the fine material build-up along the strike drives. Robust, remotely operated equipment that can function beyond line-of-sight would be required as the strike drives are exposed to open ground conditions from above and below for as much as 300 m. From preliminary discussions between SRK ES and mining equipment fabricators, a 5 tonne haulage truck retrofitted with a vacuum system or a narrow seam continuous miner with a trailing hopper may by suitable for the task.

Quantifying the amount of available sweepings is problematic as the depth of the material deposited on the ground is unknown without a thorough sampling program that would expose samplers to open ground conditions.

### 25.4.3 Mineral Processing

The small-scale and sporadic nature of remnant mining may lend itself to gravity processing on site. Based on historic testwork, it is known that some 75% of the gold at Nalunaq can be recovered using such methods (SGS, 2011), although final separation of the gold from heavy arsenic-bearing minerals is more challenging. It may therefore be possible to install a relatively small modular gravity processing plant in the mine, making use of space that could be created in the former underground processing area. Gravity concentrates would be produced and their low volumes would allow flexible and low-cost shipping to an existing facility for further refinement and gold recovery, thus allowing some revenue to be generated. Nalunaq A/S is currently in discussion with potential providers of gravity plants and cyanide facilities.

An on-site gravity processing plant, if of suitable specification, also has the advantage of use for future bulk samples that may be taken during the course of exploration.

More work is needed to understand where and how tailings could be stored. It is likely that they will carry significant gold grades and it would be advantageous to ensure that they remain accessible for future gold recovery.

### 25.4.4 Remnant Mining Path Forward

Due to the small scale of remnant mining identified, SRK ES is of the opinion that the remnant mining will not be economic as a standalone project. However, if the remnant mining can be completed in conjunction with a potential future exploration program, bulk sample, or full mine production, then the mobilisation, set-up, facilities construction, and indirect operating costs could be shared. SRK ES recommends continued discussions with mobile equipment and processing equipment fabricators and the engagement of mining contractors to better understand the direct costs and potential economic results of remnant mining.

## 25.5 Phase 1 Programme & Budget

It is recommended that a phased approach be taken to the 'global' expenditure mentioned in Section 25.1.1. In this regard Table 25-2 shows the costs for the first, initial, steps that should be taken at Nalunaq. This phase is designed to build on the surface exploration already completed, adding to the understanding of continuity of mineralisation at Nalunaq and is at a lower cost to the underground exploration. It will clearly focus on the areas covered by the Exploration Target described in Section 24.3.

Phase 1 will have two main components. Surface sampling and mapping will continue with professional mountaineers and geologists where the Man Vein crops out on the southwest slope of the mountain as well on the most northerly face. Previously postulated mineralised structures parallel to the Main Vein will also be explored on surface. Surface drilling, the second component, will take place at the sites mentioned in Section 25.1.4. These holes are designed to explore ground around the Target and South Blocks. More surface holes can also be drilled to test ground down dip of the South Block if circumstances allow.

Both the Phase 1 exploration components will require the use of a chartered helicopter for mountaineer access and rig moves for at least four sites.

The initial exploration will be supported by the installation of a temporary camp as well as core logging and sample processing facilities close to the project area.

**Table 25-2 Phase 1 Sampling and Drilling Budget**

| Item | Cost (CAD$) |
|---|---:|
| Mobilisation and demobilisation of drilling and mountaineers | 102,000 |
| Drilling (3150m) | 469,000 |
| Drilling indirect (logistical support on site) | 148,000 |
| Surface Reconnaissance and sampling (Mountaineers) | 148,000 |
| Mining method and Remnant Mining Investigation | 67,000 |
| Helicopter support | 130,000 |
| Assay cost | 42,000 |
| Project management and other | 40,000 |
| Reporting | 34,000 |
| **Total** | **1,180,000** |

Phase 1 will also include continued assessment of historic mine and surface exploration data in order to enhance the modelling completed thus far as well as the mining method and remnant investigation discussed in Section 25.3 and Section 25.4.

Consideration should also be given to adjusting the Phase 1 programme if Alopex acquire the exploration licences that surround Nalunaq. Whilst surface exploration capacity is available in in the area, the opportunity to explore the regional continuation of the Main Vain structure or similar mineralised structures which may occur within the same lithologies, should not be missed.

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# CERTIFICATE OF AUTHOR

To Accompany the report entitled: **An Independent Technical report on the Nalunaq Gold Project, South Greenland, dated 20 March 2017 and effective 16 December 2016**.

I, James Gilbertson, residing at Fairview, Peterston-super-Ely, Cardiff, CF5 6LH, do hereby certify that:

1) I am a Principal Exploration Geologist with the firm of SRK Exploration Services Ltd ("SRK ES") with an office at 12 St Andrew's Crescent, Cardiff, United Kingdom, CF10 3DD;
2) I am a graduate of the Durham University in 2000 and Camborne School of Mines, 2001 where I obtained a Geology and Mining Geology degree. I have practiced my profession continuously since July 2001. I have practiced as a resource and exploration geologist with SRK since 2004, assessing exploration assets, designing and managing exploration programmes, auditing exploration data, generating geological models and Mineral Resource Estimates;
3) I am a Professional Chartered Geologist registered with the Geological Society of London, membership no. 1013644;
4) I hold relevant work experience in Mineral exploration and Mineral Resource estimation of orogenic lode gold deposits.
5) I have personally inspected the subject project during the period 24 August to 3 September 2013.
6) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of National Instrument 43-101;
7) I am the author of this report and accept professional responsibility for all sections of this technical report;
8) I, as a qualified person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
9) I have had no prior involvement with the subject property;
10) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
11) SRK Exploration Services Ltd was retained by Nalunaq A/S. to prepare a technical report on the Nalunaq Project. In conducting our report, a gap analysis of project technical data was completed using CIM "Best practices" and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a Mineral Resource estimate, a review of project files and discussions with Nalunaq A/S. personnel;
12) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Nalunaq Project or securities of Nalunaq A/S.;
13) That, as of the date of this technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading; and
14) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report.

Cardiff, UK

20th March 2017

["signed and sealed"]

James Gilbertson, MCSM, CGeol

Principal Exploration Geologist

## CERTIFICATE OF AUTHOR

To Accompany the report entitled: **An Independent Technical report on the Nalunaq Gold Project, South Greenland, dated 20 March 2017 and effective 16 December 2016**.

I, Fernando Saez Rivera, residing at Av Parque Gonzales Prada 324 App 202, Magdalena, Lima 17, Peru, do hereby certify that:

1) I am a Senior Consultant Geologist with the firm of SRK Consulting (Peru) S.A. (“SRK”) with an office at Av La Paz 1227, Miraflores, Lima 18, Peru;
2) I am a graduate of the Universidad Nacional de Ingenieria in 2001 where I obtained a Bsc Geology Engineer degree, in 2005 I obtained a Professional degree in Geological Engineering, in 2007 I obtained a diploma in Applied Geostatistics Citation of Alberta University in Chile, and in 2011 I obtained of Specialized in Geostatistics of Mines ParisTech in France. I have practiced my profession continuously since January 2002 in Exploration, Development Geologist and Resources Geologist in different Mining Companies. I have practiced as a resource geologist with SRK since 2015, assessing Due Diligences, auditing Mineral Resources Models, generating geological models and Mineral Resource Estimates;
3) I am a Professional Geologist registered as Member of Australian Institute of Geoscientists, membership no. 5786;
4) I hold relevant work experience in Mineral exploration and Mineral Resource estimation of orogenic lode gold deposits and other veins deposits.
5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a “qualified person” for the purposes of National Instrument 43-101;
6) I am the author of this report and accept professional responsibility for Mineral Resources Estimates sections of this technical report;
7) I, as a qualified person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
8) I have had no prior involvement with the subject property;
9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
10) SRK Consulting (Peru) S.A. was retained, via SRK Exploration Services Ltd., by Nalunaq A/S. to prepare a technical report on the Nalunaq Project. In conducting our report, a gap analysis of project technical data was completed using CIM “Best practices” and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a Mineral Resource estimate, a review of project files and discussions with Nalunaq A/S. personnel;
11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Nalunaq Project or securities of Nalunaq A/S;
12) That, as of the date of this technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading; and
13) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report.

Lima, Peru
20th March 2017

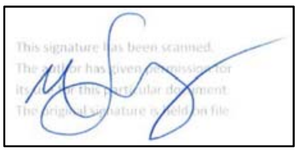
*["signed and sealed"]*
Fernando Saez, MAIG
Senior Resources Geologist

## CERTIFICATE OF QUALIFIED PERSON

To Accompany the report entitled: **An Independent Technical report on the Nalunaq Gold Project, South Greenland, dated 20 March 2017 and effective 16 December 2016**.

I, Michael Selby, residing at Sudbury, Ontario do hereby certify that:

1) I am a Principal Consultant (Mining) with the firm of SRK Consulting (Canada) Inc. (SRK) with an office at Suite 1300 - 151 Yonge Street, Toronto, Ontario, Canada;
2) I am a graduate of the Queen's University at Kingston, Ontario in 2001, I obtained a BSc in Applied Science. I have practiced my profession continuously since 2001. I have generated mining strategies, designs, and schedules through various roles at operating underground mines and consulting firms;
3) I am a professional Engineer registered with the Professional Engineers Ontario (#100083134);
4) I have personally inspected the subject project June 29 to July 6, 2016;
5) I have read the definition of Qualified Person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
6) I, as a Qualified Person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
7) I am the co-author of this report and responsible for 8.8, 13.6.5, 17.3, 25.3 and accept professional responsibility for those sections of this technical report;
8) I have had no prior involvement with the subject property;
9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
10) SRK Consulting (Canada) Inc. was retained, via SRK Exploration Services Ltd., by Nalunaq A/S to prepare a technical audit of the Nalunaq Project. In conducting our audit, a gap analysis of project technical data was completed using CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Nalunaq A/S personnel;
11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Nalunaq Project or securities of Nalunaq A/S; and
12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.



*["signed and sealed"]*

Sudbury, Ontario
20th March 2017

Michael Selby, PEng (PEO#100083134)
Principal Engineer (Mining)

# SRK EXPLORATION SERVICES LTD

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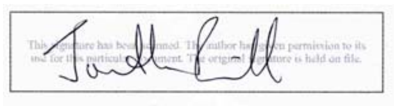

# APPENDIX A

# 2016 SURFACE SAMPLE ANALYSIS RESULTS

| Sample ID | Station ID | Easting | Northing | Elevation, m | Date Sampled | Vein Thickness, | Dip | Dip Direction | Au SCR-24 Screen Metallics | | | | | | Au-AA26 Fire Assay | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Au total | Au >100 µm | Au <100 µm | Au >100 µm | Total >100 µm | Total <100 µm | Au | Au |
| | | | | | | | | | ppm | ppm | ppm | mg | g | g | ppm | ppm |
| 14376 | 1244 | 507350 | 6691228 | 1144 | 8/18/2016 | | 48 | 148 | <0.05 | <0.05 | <0.05 | <0.001 | 65.33 | 951.3 | 0.01 | 0.03 |
| 14377 | 1245 | 507351 | 6691233 | 1146 | 8/18/2016 | | 48 | 148 | <0.05 | <0.05 | <0.05 | <0.001 | 70.76 | 873.7 | 0.03 | 0.04 |
| 14378 | 1246 | 507356 | 6691229 | 1134 | 8/18/2016 | | | | 0.2 | 0.1 | 0.22 | 0.008 | 79.94 | 796 | 0.2 | 0.23 |
| 14379 | 1247A | 507368 | 6691233 | | 8/18/2016 | | 45 | 160 | 4.46 | 9.43 | 3.82 | 0.991 | 105.1 | 814.4 | 3.87 | 3.77 |
| 14380 | 1247B | 507368 | 6691233 | 1127 | 8/18/2016 | | | | 0.47 | 0.27 | 0.47 | 0.007 | 25.51 | 1050 | 0.44 | 0.5 |
| 14381 | 1248 | 507368 | 6691222 | 1116 | 8/18/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 110.75 | 874.7 | 0.03 | 0.04 |
| 14383 | 1250 | 507411 | 6691085 | 973 | 8/20/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 8.52 | 771 | <0.01 | 0.01 |
| 14384 | 1251 | 507416 | 6691108 | 984 | 8/20/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 16.43 | 986.1 | 0.01 | <0.01 |
| 14385 | 1253 | 507402 | 6691130 | 1002 | 8/20/2016 | | | | 0.07 | 1.12 | 0.07 | 0.002 | 1.79 | 610.1 | 0.07 | 0.07 |
| 14386 | 1255 | 507384 | 6691168 | 1059 | 8/20/2016 | | | | 0.1 | 0.07 | 0.1 | 0.004 | 54.11 | 919.9 | 0.08 | 0.12 |
| 14387 | 1256 | 507351 | 6691232 | 1133 | 8/21/2016 | 22 | 44 | 132 | <0.05 | <0.05 | <0.05 | <0.001 | 10.08 | 919.7 | 0.01 | 0.02 |
| 14388 | 1257A | 507358 | 6691227 | 1121 | 8/22/2016 | 25 | 38 | 144 | 4.05 | 3.49 | 4.06 | 0.056 | 16.04 | 1037 | 4.12 | 3.99 |
| 14389 | 1257B | 507358 | 6691227 | 1121 | 8/21/2016 | | | | 2.74 | 3.89 | 2.7 | 0.168 | 43.21 | 1050.5 | 2.68 | 2.71 |
| 14390 | 1257C | 507358 | 6691227 | 1121 | 8/21/2016 | | | | 0.05 | <0.05 | 0.05 | <0.001 | 27.13 | 1035 | 0.05 | 0.05 |
| 14391 | 1257D | 507358 | 6691227 | 1121 | 8/21/2016 | | | | 0.72 | 0.4 | 0.76 | 0.04 | 100.05 | 900.4 | 0.75 | 0.76 |
| 14392 | 1257E | 507358 | 6691227 | 1121 | 8/21/2016 | | | | 1.37 | 0.88 | 1.4 | 0.059 | 67.23 | 946.8 | 1.45 | 1.35 |
| 14393 | 1258 | 507363 | 6691230 | 1122 | 8/21/2016 | | 45 | 130 | 21.4 | 52.2 | 19.15 | 3.443 | 65.97 | 885.1 | 19.75 | 18.5 |
| 14395 | 1259 | 507371 | 6691208 | 1101 | 8/21/2016 | | 45 | 135 | <0.05 | <0.05 | <0.05 | <0.001 | 46.14 | 815.7 | 0.02 | 0.01 |
| 14396 | 1261 | 507361 | 6691189 | 1088 | 8/21/2016 | 10 - 15 | 80 | 135 | 17.65 | 52.2 | 16.8 | 1.321 | 25.32 | 999.6 | 16.65 | 16.95 |
| 14397 | 1262 | 507363 | 6691189 | 1079 | 8/21/2016 | 5 - 10 | 58 | 135 | 0.15 | 0.09 | 0.16 | 0.004 | 42.4 | 908.3 | 0.14 | 0.17 |
| 14398 | 1263 | 507373 | 6691179 | 1063 | 8/21/2016 | 4 | 40 | 155 | <0.05 | <0.05 | <0.05 | <0.001 | 7.49 | 990.1 | 0.02 | 0.03 |
| 14399 | 1264 | 507385 | 6691172 | 1063 | 8/21/2016 | 5 | 32 | 155 | <0.05 | <0.05 | <0.05 | <0.001 | 19.7 | 932.5 | 0.02 | 0.01 |
| 14400 | 1265 | 507412 | 6691151 | 1039 | 8/21/2016 | 10 | 55 | 150 | 0.17 | 0.16 | 0.17 | 0.015 | 93.41 | 876.4 | 0.17 | 0.17 |
| 14401 | 1266 | 507413 | 6691131 | 1026 | 8/21/2016 | 12 | 40 | 155 | 1.23 | 1.47 | 1.21 | 0.125 | 85.29 | 911.3 | 1.18 | 1.24 |
| 14402 | 1268 | 507409 | 6691117 | 1012 | 8/21/2016 | 10 - 12 | 48 | 140 | <0.05 | <0.05 | <0.05 | <0.001 | 58.57 | 1038.5 | 0.02 | 0.04 |
| 14403 | 1269 | 507412 | 6691095 | 997 | 8/21/2016 | 20 - 25 | 50 | 150 | <0.05 | <0.05 | <0.05 | <0.001 | 28.92 | 1046 | 0.01 | 0.01 |
| 14404 | 1270 | 507416 | 6691078 | 974 | 8/21/2016 | 10 | 30 | 150 | 0.07 | 0.13 | 0.07 | 0.005 | 38.37 | 893.3 | 0.06 | 0.08 |
| 14405 | 1271A | 507437 | 6691066 | 963 | 8/21/2016 | 15 | 55 | 130 | 2.4 | 0.43 | 2.45 | 0.01 | 23.23 | 968 | 2.08 | 2.81 |
| 14406 | 1271B | 507437 | 6691066 | 963 | 8/21/2016 | | | | 0.86 | 1.34 | 0.85 | 0.055 | 41.03 | 1004.5 | 0.89 | 0.8 |
| 14407 | 1272A | 507366 | 6691220 | 1112 | 8/22/2016 | | 45 | 145 | 13.65 | 70.9 | 12.15 | 1.549 | 21.86 | 833.3 | 12.1 | 12.2 |
| 14408 | 1272B | 507366 | 6691220 | 1112 | 8/22/2016 | | | | 6.03 | 34 | 4.24 | 2.23 | 65.56 | 1023 | 3.51 | 4.96 |
| 14409 | 1273 | 507414 | 6691156 | 1043 | 8/22/2016 | 5 | 52 | 130 | 0.09 | 0.06 | 0.09 | 0.002 | 32.34 | 881 | 0.09 | 0.09 |
| 14410 | 1274 | 507404 | 6691137 | 1043 | 8/22/2016 | 5 - 10 | 50 | 150 | 0.8 | 0.79 | 0.81 | 0.05 | 63.18 | 992.3 | 0.81 | 0.8 |
| 14411 | 1275 | 507432 | 6691075 | 970 | 8/22/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 60.56 | 976.7 | 0.01 | 0.02 |
| 14412 | 1276 | 507443 | 6691061 | 981 | 8/22/2016 | | 42 | 128 | <0.05 | <0.05 | <0.05 | <0.001 | 63.62 | 1030 | <0.01 | 0.01 |
| 14413 | 1277A | 507440 | 6691049 | 965 | 8/22/2016 | 2 | 45 | 128 | 0.08 | <0.05 | 0.08 | <0.001 | 45.55 | 937.1 | 0.08 | 0.08 |
| 14414 | 1277B | 507440 | 6691049 | 965 | 8/22/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 31.26 | 772.2 | 0.02 | <0.01 |
| 14416 | 1278 | 507429 | 6691035 | 956 | 8/22/2016 | | 50 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 30.95 | 624.2 | 0.01 | <0.01 |
| 14417 | 1279 | 507392 | 6690987 | 1012 | 8/22/2016 | 5 - 10 | 40 | 140 | 0.35 | 0.08 | 0.36 | 0.004 | 50.53 | 906.1 | 0.35 | 0.37 |
| 14418 | 1280 | 507396 | 6690971 | 1005 | 8/22/2016 | 6 - 7 | 38 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 94.72 | 1004 | 0.03 | 0.02 |
| 14419 | 1281 | 507459 | 6691003 | 930 | 8/22/2016 | 5 - 10 | 30 | 140 | 2.26 | 10.35 | 1.43 | 0.981 | 94.98 | 917.2 | 1.5 | 1.36 |
| 14420 | 1282 | 507465 | 6691003 | 917 | 8/22/2016 | 20 | 40 | 175 | 0.5 | 1.18 | 0.47 | 0.053 | 44.96 | 917.8 | 0.44 | 0.5 |
| 14421 | 1283 | 507502 | 6690985 | 919 | 8/22/2016 | 15 - 20 | 30 | 120 | 5.75 | 13.5 | 5.05 | 1.135 | 84.06 | 930.9 | 4.47 | 5.62 |
| 14422 | 1284 | 507345 | 6691241 | 1140 | 8/24/2016 | 5 | 55 | 135 | 0.15 | 0.06 | 0.16 | 0.006 | 96.22 | 815 | 0.15 | 0.17 |

| Sample ID | Station ID | Easting | Northing | Elevation, m | Date Sampled | Vein Thickness, | Dip | Dip Direction | Au SCR-24 Screen Metallics | | | | | | Au-AA26 Fire Assay | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Au total | Au >100 µm | Au <100 µm | Au >100 µm | Total >100 µm | Total <100 µm | Au | Au |
| | | | | | | | | | ppm | ppm | ppm | mg | g | g | ppm | ppm |
| 14423 | 1285 | 507342 | 6691244 | 1143 | 8/24/2016 | 5 | 55 | 145 | 0.15 | 0.1 | 0.15 | 0.006 | 61.28 | 885.7 | 0.14 | 0.16 |
| 14424 | 1286A | 507334 | 6691251 | 1149 | 8/24/2016 | | 25 | 160 | <0.05 | <0.05 | <0.05 | <0.001 | 55.63 | 950 | 0.03 | 0.03 |
| 14425 | 1286B | 507334 | 6691251 | 1149 | 8/24/2016 | 10 | 35 | 150 | <0.05 | <0.05 | <0.05 | <0.001 | 100.8 | 829.3 | 0.01 | 0.01 |
| 14426 | 1286C | 507334 | 6691251 | 1149 | 8/24/2016 | 25 | 42 | 140 | 0.24 | 0.36 | 0.24 | 0.017 | 47.01 | 955 | 0.23 | 0.24 |
| 14427 | 1287 | 507414 | 6691087 | 984 | 8/24/2016 | 20 | 50 | 110 | <0.05 | <0.05 | <0.05 | <0.001 | 52.08 | 1051 | <0.01 | <0.01 |
| 14428 | 1288A | 507417 | 6691103 | 1007 | 8/24/2016 | 10 | 38 | 155 | <0.05 | <0.05 | <0.05 | <0.001 | 68.12 | 867.8 | 0.02 | 0.01 |
| 14429 | 1288B | 507417 | 6691103 | 1007 | 8/24/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 35.61 | 959.8 | 0.03 | 0.01 |
| 14430 | 1289 | 507417 | 6691111 | 1008 | 8/24/2016 | 15 - 20 | 30 | 150 | <0.05 | <0.05 | <0.05 | <0.001 | 74.81 | 950.6 | 0.01 | <0.01 |
| 14432 | 1291 | 507574 | 6690885 | 867 | 8/25/2016 | | 30 | 170 | <0.05 | <0.05 | <0.05 | <0.001 | 65.82 | 926.6 | 0.02 | 0.01 |
| 14433 | 1292A | 507586 | 6690874 | 848 | 8/25/2016 | | 20 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 29.82 | 795.9 | <0.01 | <0.01 |
| 14434 | 1292B | 507586 | 6690874 | 848 | 8/25/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 33.99 | 674.1 | 0.01 | 0.01 |
| 14435 | 1293 | 507592 | 6690863 | 845 | 8/25/2016 | | 25 | 150 | <0.05 | <0.05 | <0.05 | <0.001 | 46.91 | 1021 | 0.03 | 0.04 |
| 14436 | 1294 | 507609 | 6690845 | 829 | 8/25/2016 | | 28 | 125 | <0.05 | <0.05 | <0.05 | <0.001 | 99.72 | 894.2 | 0.02 | 0.02 |
| 14437 | 1295 | 507615 | 6690835 | 825 | 8/25/2016 | 2 - 4 | 40 | 130 | 0.06 | <0.05 | 0.07 | <0.001 | 96.15 | 857.6 | 0.07 | 0.06 |
| 14438 | 1296 | 507644 | 6690818 | 805 | 8/25/2016 | 20 - 30 | 38 | 120 | 0.2 | 0.09 | 0.21 | 0.006 | 68.33 | 849.9 | 0.21 | 0.2 |
| 14439 | 1297 | 507685 | 6690808 | 787 | 8/25/2016 | 20 | 32 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 74.09 | 799.1 | 0.02 | <0.01 |
| 14440 | 1298A | 507504 | 6690988 | 893 | 8/26/2016 | 20 | 35 | 130 | 8.83 | 14.05 | 8.61 | 0.54 | 38.5 | 918.2 | 8.66 | 8.56 |
| 14441 | 1298B | 507504 | 6690988 | 893 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 66.8 | 891.1 | 0.01 | 0.02 |
| 14442 | 1299A | 507501 | 6690975 | 898 | 8/26/2016 | 2 - 4 | 35 | 135 | 0.29 | <0.05 | 0.3 | <0.001 | 19.04 | 774.9 | 0.29 | 0.3 |
| 14443 | 1300 | 507514 | 6690969 | 884 | 8/26/2016 | 4-5 | 32 | 130 | 3.47 | 6.85 | 3.36 | 0.143 | 20.88 | 662.3 | 3.48 | 3.24 |
| 14444 | 1301A | 507498 | 6690989 | 907 | 8/26/2016 | 5 - 10 | 38 | 140 | 23.7 | 28.2 | 23.6 | 0.805 | 28.59 | 895.8 | 23.2 | 24 |
| 14445 | 1301B | 507498 | 6690989 | 907 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 54.08 | 728.3 | 0.01 | 0.01 |
| 14447 | 1302 | 507488 | 6690929 | 904 | 8/26/2016 | | 32 | 128 | 0.31 | 0.16 | 0.32 | 0.009 | 55.66 | 919.9 | 0.32 | 0.31 |
| 14448 | 1303 | 507518 | 6690920 | 875 | 8/26/2016 | | | | 0.1 | <0.05 | 0.11 | <0.001 | 70.38 | 942.8 | 0.09 | 0.13 |
| 14449 | 1304A | 507532 | 6690907 | 874 | 8/26/2016 | 4 - 5 | 30 | 125 | <0.05 | <0.05 | <0.05 | <0.001 | 69.51 | 800.9 | 0.01 | 0.01 |
| 14450 | 1305 | 507546 | 6690863 | 858 | 8/26/2016 | 7 - 10 | 38 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 75.8 | 864 | 0.03 | 0.02 |
| 14451 | 1306 | 507540 | 6690894 | 860 | 8/26/2016 | 6 - 8 | 40 | 130 | <0.05 | <0.05 | <0.05 | <0.001 | 51.98 | 792.1 | 0.01 | <0.01 |
| 14452 | 1307 | 507715 | 6690786 | 774 | 8/26/2016 | 8 - 10 | 28 | 120 | 0.9 | 6.4 | 0.52 | 0.393 | 61.4 | 869.1 | 0.59 | 0.44 |
| 14454 | 1298C | 507504 | 6690988 | 893 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 63.51 | 906.5 | <0.01 | <0.01 |
| 14455 | 1298D | 507504 | 6690988 | 893 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 67.13 | 982.1 | 0.01 | <0.01 |
| 14456 | 1299B | 507501 | 6690975 | 898 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 69.14 | 846 | <0.01 | <0.01 |
| 14457 | 1301C | 507498 | 6690989 | 907 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 70.67 | 858.6 | 0.05 | 0.03 |
| 14458 | 1304B | 507532 | 6690907 | 874 | 8/26/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 75.42 | 825.6 | <0.01 | <0.01 |
| 14459 | 1308A | 507533 | 6691008 | 882 | 8/28/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 72.32 | 849.4 | 0.02 | 0.02 |
| 14460 | 1308B | 507533 | 6691008 | 882 | 8/28/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 35.98 | 998 | <0.01 | <0.01 |
| 14461 | 1308C | 507533 | 6691008 | 882 | 8/28/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 69.65 | 878.6 | <0.01 | <0.01 |
| 14462 | 1309 | 507726 | 6690775 | 762 | 8/28/2016 | 4 - 10 | 50 | 130 | 0.64 | 0.4 | 0.66 | 0.02 | 49.72 | 967.6 | 0.64 | 0.67 |
| 14463 | 1310 | 507735 | 6690772 | 748 | 8/28/2016 | 8 - 10 | 50 | 115 | 0.84 | 3.4 | 0.68 | 0.196 | 57.71 | 919.7 | 0.22 | 1.14 |
| 14464 | 1311 | 507761 | 6690751 | 733 | 8/28/2016 | | | | <0.05 | <0.05 | <0.05 | <0.001 | 71.58 | 947.7 | 0.01 | 0.01 |
| 14466 | 1312 | 507769 | 6690790 | 719 | 8/28/2016 | 8 | 40 | 130 | 0.14 | 0.35 | 0.13 | 0.026 | 73.37 | 866.7 | 0.13 | 0.12 |
| 14467 | 1313 | 507777 | 6690762 | 729 | 8/28/2016 | 10 | 40 | 110 | 0.09 | 0.16 | 0.09 | 0.009 | 57.73 | 760.2 | 0.09 | 0.08 |
| 14469 | 1314 | 507793 | 6690758 | 720 | 8/28/2016 | 10 - 15 | 28 | 120 | 0.14 | 0.15 | 0.14 | 0.011 | 74.96 | 552.4 | 0.13 | 0.15 |
| 14470 | 1315A | 507812 | 6690748 | 718 | 8/28/2016 | 15 | 25 | 100 | 0.83 | 1.27 | 0.8 | 0.092 | 72.4 | 989 | 0.78 | 0.82 |
| 14471 | 1315B | 507812 | 6690748 | 718 | 8/28/2016 | | | | 0.16 | 0.11 | 0.16 | 0.008 | 73.82 | 873.2 | 0.15 | 0.17 |

| Sample ID | Station ID | ME-ICP61 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ag ppm | Al % | As ppm | Ba ppm | Be ppm | Bi ppm | Ca % | Cd ppm | Co ppm | Cr ppm | Cu ppm | Fe % | Ga ppm | K % | La ppm | Mg % |
| | | ppm | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % | ppm | % | ppm | % |
| 14376 | 1244 | <0.5 | 7.49 | 189 | 40 | <0.5 | <2 | 11.4 | <0.5 | 43 | 144 | 478 | 8.98 | 10 | 0.23 | <10 | 3.39 |
| 14377 | 1245 | <0.5 | 7.57 | 197 | 50 | 0.7 | 3 | 7.95 | <0.5 | 46 | 136 | 116 | 8.46 | 10 | 0.42 | <10 | 4.53 |
| 14378 | 1246 | <0.5 | 7.17 | 165 | 20 | 5.2 | <2 | 11 | <0.5 | 38 | 88 | 80 | 5.84 | 10 | 0.2 | <10 | 3.33 |
| 14379 | 1247A | 0.8 | 6.08 | 151 | 60 | 1.6 | <2 | 6.63 | <0.5 | 35 | 115 | 208 | 6.97 | 10 | 0.36 | <10 | 3.29 |
| 14380 | 1247B | <0.5 | 6.24 | 216 | 50 | 0.5 | <2 | 9.03 | <0.5 | 38 | 114 | 83 | 6.3 | 10 | 0.21 | <10 | 3.27 |
| 14381 | 1248 | <0.5 | 7.44 | 104 | 60 | 0.7 | 4 | 9.16 | <0.5 | 41 | 138 | 223 | 7.64 | 10 | 0.33 | <10 | 3.42 |
| 14383 | 1250 | <0.5 | 1.66 | 18 | 10 | <0.5 | <2 | 3.03 | <0.5 | 7 | 28 | 63 | 1.45 | <10 | 0.04 | <10 | 0.63 |
| 14384 | 1251 | <0.5 | 6.17 | 36 | 20 | 4.8 | <2 | 2.41 | <0.5 | 8 | 30 | 23 | 1.4 | 20 | 1.51 | <10 | 0.64 |
| 14385 | 1253 | <0.5 | 8.2 | 48 | 30 | 20.2 | <2 | 5.92 | <0.5 | 15 | 47 | 25 | 2.27 | 30 | 0.22 | <10 | 1.1 |
| 14386 | 1255 | <0.5 | 6.53 | 41 | 10 | 2.6 | <2 | 10.1 | <0.5 | 33 | 91 | 146 | 5.43 | 10 | 0.02 | <10 | 3 |
| 14387 | 1256 | <0.5 | 6.27 | 136 | 60 | 19.8 | <2 | 0.95 | <0.5 | 8 | 13 | 112 | 0.61 | 20 | 1.39 | <10 | 0.14 |
| 14388 | 1257A | <0.5 | 3.14 | 972 | 40 | 2.4 | <2 | 7.27 | <0.5 | 20 | 70 | 66 | 3.39 | 10 | 0.12 | <10 | 1.49 |
| 14389 | 1257B | <0.5 | 3.97 | 750 | 110 | 1.1 | <2 | 7.77 | <0.5 | 24 | 76 | 75 | 3.76 | 10 | 0.25 | <10 | 1.71 |
| 14390 | 1257C | <0.5 | 6.87 | 224 | 50 | 1.4 | <2 | 7.93 | <0.5 | 41 | 142 | 129 | 8.66 | 10 | 0.45 | <10 | 4.67 |
| 14391 | 1257D | <0.5 | 7.28 | 133 | 50 | <0.5 | <2 | 9.59 | <0.5 | 49 | 133 | 81 | 8.16 | 10 | 0.24 | <10 | 4.72 |
| 14392 | 1257E | <0.5 | 5.53 | 441 | 150 | 1.9 | <2 | 9.98 | <0.5 | 29 | 85 | 59 | 4.67 | 10 | 0.5 | <10 | 2.41 |
| 14393 | 1258 | 1 | 0.57 | 314 | 10 | 0.8 | 7 | 1.84 | <0.5 | 4 | 20 | 12 | 1.11 | <10 | 0.01 | <10 | 0.16 |
| 14395 | 1259 | <0.5 | 0.37 | 5 | <10 | <0.5 | <2 | 2.43 | <0.5 | 4 | 22 | 264 | 1.95 | <10 | 0.01 | <10 | 0.38 |
| 14396 | 1261 | <0.5 | 4.99 | 1050 | 30 | 1.5 | 5 | 8.5 | <0.5 | 22 | 69 | 32 | 3.91 | 10 | 0.13 | <10 | 1.55 |
| 14397 | 1262 | <0.5 | 8.74 | 883 | 40 | 8.7 | <2 | 12.45 | <0.5 | 30 | 66 | 51 | 4.57 | 20 | 0.23 | <10 | 1.98 |
| 14398 | 1263 | <0.5 | 7.05 | 9 | 40 | 0.5 | <2 | 7.61 | <0.5 | 39 | 110 | 103 | 6.45 | 10 | 0.21 | <10 | 4.33 |
| 14399 | 1264 | <0.5 | 2.64 | 62 | <10 | 1.1 | <2 | 5.23 | <0.5 | 19 | 66 | 66 | 2.39 | <10 | 0.01 | <10 | 0.94 |
| 14400 | 1265 | <0.5 | 3.73 | 442 | 30 | 0.5 | <2 | 22.7 | <0.5 | 12 | 40 | 29 | 2.81 | <10 | 0.25 | <10 | 1.36 |
| 14401 | 1266 | 1.6 | 1.68 | 6030 | 30 | 0.5 | <2 | 30.1 | <0.5 | 12 | 29 | 34 | 2.3 | <10 | 0.09 | <10 | 1.06 |
| 14402 | 1268 | <0.5 | 7.7 | 95 | <10 | <0.5 | <2 | 15.3 | <0.5 | 58 | 113 | 126 | 6.85 | 10 | 0.01 | <10 | 1.57 |
| 14403 | 1269 | <0.5 | 6.72 | 66 | <10 | <0.5 | 2 | 14.75 | <0.5 | 40 | 116 | 101 | 5.92 | 10 | 0.01 | <10 | 1.44 |
| 14404 | 1270 | 0.5 | 10.15 | 10 | <10 | <0.5 | <2 | 13.5 | <0.5 | 26 | 95 | 34 | 5.18 | 30 | 0.01 | <10 | 1.89 |
| 14405 | 1271A | 0.6 | 2.58 | 132 | 40 | <0.5 | <2 | 9.98 | <0.5 | 8 | 23 | 235 | 1.28 | 10 | 0.31 | <10 | 0.24 |
| 14406 | 1271B | 0.5 | 4.15 | 110 | 40 | <0.5 | <2 | 13 | <0.5 | 15 | 42 | 229 | 1.79 | 10 | 0.27 | <10 | 0.42 |
| 14407 | 1272A | 1.6 | 3.72 | 417 | 30 | 5.2 | 3 | 10.05 | 0.5 | 23 | 62 | 52 | 4.3 | 10 | 0.09 | <10 | 2.06 |
| 14408 | 1272B | <0.5 | 3.84 | 126 | 30 | 12.8 | <2 | 13.5 | <0.5 | 19 | 50 | 143 | 3.57 | 10 | 0.2 | <10 | 1.4 |
| 14409 | 1273 | <0.5 | 6.23 | 340 | 60 | 3.4 | <2 | 13.05 | <0.5 | 31 | 107 | 128 | 6.37 | 10 | 0.27 | <10 | 2.81 |
| 14410 | 1274 | <0.5 | 6.25 | 759 | 190 | 19.3 | <2 | 13.2 | <0.5 | 27 | 66 | 93 | 5.1 | 10 | 1.12 | <10 | 2.87 |
| 14411 | 1275 | <0.5 | 6.71 | 66 | 130 | 1.3 | <2 | 15.4 | <0.5 | 33 | 106 | 28 | 4.37 | 20 | 0.87 | <10 | 1.94 |
| 14412 | 1276 | <0.5 | 5.82 | 24 | 70 | 7.5 | <2 | 8.87 | <0.5 | 17 | 46 | 52 | 3.49 | 10 | 0.81 | <10 | 1.39 |
| 14413 | 1277A | <0.5 | 7.35 | 144 | 60 | 0.8 | 2 | 9.01 | <0.5 | 45 | 114 | 113 | 7.87 | 10 | 0.32 | <10 | 4.11 |
| 14414 | 1277B | <0.5 | 2.18 | 46 | 40 | 2.2 | <2 | 3.08 | <0.5 | 12 | 49 | 59 | 2.2 | <10 | 0.08 | <10 | 0.83 |
| 14416 | 1278 | <0.5 | 1.69 | 12 | 10 | <0.5 | <2 | 5.53 | <0.5 | 15 | 44 | 266 | 3.19 | <10 | 0.02 | <10 | 1.19 |
| 14417 | 1279 | <0.5 | 3.94 | 313 | 120 | 2 | <2 | 6.45 | <0.5 | 24 | 59 | 44 | 3.83 | 10 | 0.47 | <10 | 1.73 |

| | | ME-ICP61 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Station ID | Mn ppm | Mo ppm | Na % | Ni ppm | P ppm | Pb ppm | S % | Sb ppm | Sc ppm | Sr ppm | Te ppm | Th ppm | Ti % | Tl ppm | U ppm | V ppm | W ppm | Zn ppm |
| | | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm |
| 14376 | 1280 | 1430 | <1 | 0.61 | 92 | 320 | <2 | 0.3 | <5 | 45 | 139 | <10 | <20 | 0.52 | <10 | <10 | 308 | <10 | 75 |
| 14377 | 1281 | 1350 | <1 | 1.56 | 116 | 300 | <2 | 0.09 | 5 | 43 | 108 | <10 | <20 | 0.54 | 10 | <10 | 312 | <10 | 61 |
| 14378 | 1282 | 943 | <1 | 0.91 | 90 | 240 | 2 | 0.01 | <5 | 35 | 64 | <10 | <20 | 0.44 | <10 | <10 | 260 | <10 | 41 |
| 14379 | 1283 | 1210 | <1 | 1.13 | 85 | 240 | 3 | 0.04 | <5 | 34 | 126 | <10 | <20 | 0.42 | <10 | <10 | 241 | 10 | 56 |
| 14380 | 1284 | 1160 | <1 | 1.2 | 89 | 250 | 2 | 0.03 | <5 | 34 | 193 | <10 | <20 | 0.42 | <10 | 10 | 250 | <10 | 69 |
| 14381 | 1285 | 1250 | <1 | 1.51 | 102 | 280 | <2 | 0.25 | <5 | 42 | 152 | <10 | <20 | 0.52 | <10 | <10 | 305 | <10 | 53 |
| 14383 | 1286A | 230 | <1 | 0.04 | 20 | 40 | <2 | 0.01 | 7 | 6 | 18 | <10 | <20 | 0.06 | <10 | <10 | 50 | <10 | 9 |
| 14384 | 1286B | 314 | <1 | 3.66 | 14 | 270 | 11 | 0.01 | <5 | 7 | 27 | <10 | <20 | 0.09 | <10 | 10 | 51 | <10 | 17 |
| 14385 | 1286C | 571 | <1 | 4.54 | 37 | 940 | <2 | 0.01 | <5 | 11 | 102 | <10 | <20 | 0.15 | <10 | <10 | 86 | <10 | 40 |
| 14386 | 1287 | 886 | <1 | 0.72 | 74 | 250 | <2 | 0 | <5 | 33 | 15 | <10 | <20 | 0.44 | <10 | <10 | 239 | <10 | 112 |
| 14387 | 1288A | 78 | <1 | 4.79 | 17 | 380 | 4 | 0.01 | <5 | 3 | 35 | <10 | <20 | 0.02 | <10 | 10 | 14 | <10 | 13 |
| 14388 | 1288B | 598 | <1 | 0.4 | 38 | 110 | <2 | 0.08 | <5 | 16 | 112 | <10 | <20 | 0.23 | <10 | <10 | 126 | 100 | 30 |
| 14389 | 1289 | 694 | 1 | 0.74 | 53 | 140 | <2 | 0.12 | <5 | 21 | 140 | <10 | <20 | 0.28 | <10 | <10 | 152 | 50 | 38 |
| 14390 | 1291 | 1220 | <1 | 1.22 | 112 | 280 | <2 | 0.21 | <5 | 41 | 124 | <10 | <20 | 0.53 | <10 | <10 | 287 | <10 | 61 |
| 14391 | 1292A | 1490 | <1 | 1.05 | 115 | 300 | 3 | 0.08 | <5 | 42 | 147 | <10 | <20 | 0.53 | <10 | <10 | 305 | <10 | 82 |
| 14392 | 1292B | 977 | <1 | 0.99 | 57 | 200 | 4 | 0.13 | <5 | 26 | 167 | <10 | <20 | 0.35 | <10 | <10 | 192 | 90 | 40 |
| 14393 | 1293 | 517 | <1 | 0.06 | 7 | 10 | <2 | 0.02 | <5 | 2 | 30 | <10 | <20 | 0.02 | <10 | <10 | 19 | 10 | 22 |
| 14395 | 1294 | 592 | 1 | 0.03 | 10 | 30 | 2 | 0.04 | <5 | 1 | 16 | <10 | <20 | 0.01 | <10 | <10 | 5 | <10 | 13 |
| 14396 | 1295 | 820 | 1 | 1.07 | 51 | 220 | 2 | 0.06 | <5 | 22 | 125 | <10 | <20 | 0.23 | <10 | <10 | 134 | 360 | 43 |
| 14397 | 1296 | 970 | <1 | 1.96 | 68 | 140 | <2 | 0.11 | <5 | 24 | 216 | <10 | <20 | 0.27 | <10 | <10 | 146 | 40 | 62 |
| 14398 | 1297 | 1120 | <1 | 1.87 | 86 | 320 | <2 | 0 | <5 | 43 | 166 | <10 | <20 | 0.57 | <10 | <10 | 303 | <10 | 68 |
| 14399 | 1298A | 447 | <1 | 0.05 | 37 | 110 | 2 | 0.01 | <5 | 16 | 23 | <10 | <20 | 0.21 | <10 | <10 | 103 | <10 | 23 |
| 14400 | 1298B | 1020 | <1 | 1.34 | 25 | 80 | <2 | 0.07 | <5 | 17 | 226 | <10 | <20 | 0.14 | <10 | <10 | 99 | 20 | 27 |
| 14401 | 1299A | 1430 | 1 | 0.2 | 25 | 290 | 2 | 0.2 | 12 | 18 | 1090 | <10 | <20 | 0.1 | <10 | <10 | 74 | 360 | 17 |
| 14402 | 1300 | 1530 | <1 | 0.04 | 94 | 330 | <2 | 0.15 | <5 | 42 | 215 | <10 | <20 | 0.59 | <10 | <10 | 304 | <10 | 35 |
| 14403 | 1301A | 1530 | 1 | 0.15 | 78 | 300 | <2 | 0.18 | 6 | 38 | 188 | <10 | <20 | 0.52 | <10 | 10 | 271 | <10 | 31 |
| 14404 | 1301B | 653 | <1 | 0.23 | 55 | 220 | <2 | 0.01 | <5 | 27 | 374 | <10 | <20 | 0.39 | <10 | <10 | 236 | <10 | 19 |
| 14405 | 1302 | 272 | <1 | 0.27 | 20 | 50 | <2 | 0.07 | <5 | 5 | 128 | <10 | <20 | 0.06 | <10 | <10 | 57 | <10 | 7 |
| 14406 | 1303 | 356 | <1 | 0.41 | 23 | 90 | <2 | 0.04 | <5 | 10 | 193 | <10 | <20 | 0.11 | <10 | <10 | 103 | <10 | 9 |
| 14407 | 1304A | 1220 | <1 | 0.27 | 46 | 140 | 2 | 0.04 | <5 | 19 | 119 | <10 | <20 | 0.25 | <10 | <10 | 140 | 50 | 109 |
| 14408 | 1305 | 1070 | <1 | 0.59 | 37 | 160 | 3 | 0.09 | <5 | 15 | 72 | <10 | <20 | 0.17 | <10 | 10 | 102 | 30 | 105 |
| 14409 | 1306 | 1390 | <1 | 0.92 | 77 | 230 | <2 | 0.1 | <5 | 31 | 152 | <10 | <20 | 0.39 | <10 | 10 | 215 | <10 | 53 |
| 14410 | 1307 | 1110 | <1 | 0.87 | 64 | 450 | <2 | 0.16 | <5 | 27 | 161 | <10 | <20 | 0.26 | <10 | <10 | 163 | 20 | 86 |
| 14411 | 1298C | 855 | <1 | 1.61 | 72 | 250 | <2 | 0.01 | <5 | 34 | 186 | <10 | <20 | 0.41 | <10 | <10 | 237 | <10 | 34 |
| 14412 | 1298D | 784 | <1 | 1.56 | 33 | 160 | 5 | 0.04 | <5 | 15 | 130 | <10 | <20 | 0.22 | <10 | <10 | 124 | <10 | 35 |
| 14413 | 1299B | 1380 | <1 | 1.47 | 97 | 340 | <2 | 0.09 | <5 | 43 | 119 | <10 | <20 | 0.59 | <10 | 10 | 312 | <10 | 77 |
| 14414 | 1301C | 417 | <1 | 0.48 | 29 | 360 | <2 | 0.01 | <5 | 10 | 49 | <10 | <20 | 0.12 | <10 | <10 | 72 | <10 | 21 |
| 14416 | 1304B | 805 | <1 | 0.11 | 28 | 70 | <2 | 0.07 | <5 | 8 | 39 | <10 | <20 | 0.1 | <10 | <10 | 66 | <10 | 28 |
| 14417 | 1308A | 757 | <1 | 0.75 | 43 | 150 | <2 | 0.04 | <5 | 19 | 126 | <10 | <20 | 0.25 | <10 | <10 | 142 | 110 | 43 |

| Sample ID | Station ID | ME-ICP61 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ag ppm | Al % | As ppm | Ba ppm | Be ppm | Bi ppm | Ca % | Cd ppm | Co ppm | Cr ppm | Cu ppm | Fe % | Ga ppm | K % | La ppm | Mg % |
| | | ppm | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | % | ppm | % | ppm | % |
| 14418 | 1280 | <0.5 | 4.82 | 84 | 70 | 0.6 | <2 | 20.6 | <0.5 | 10 | 41 | 26 | 2.11 | 10 | 0.49 | <10 | 0.77 |
| 14419 | 1281 | <0.5 | 10.1 | 395 | 10 | 2 | <2 | 14.9 | <0.5 | 22 | 57 | 175 | 2.97 | 10 | 0.05 | <10 | 1.55 |
| 14420 | 1282 | <0.5 | 8.55 | 78 | 140 | 4.9 | 4 | 4.63 | <0.5 | 11 | 32 | 29 | 2.56 | 10 | 0.74 | <10 | 1.09 |
| 14421 | 1283 | <0.5 | 1.88 | 161 | 10 | 0.8 | <2 | 4.61 | 1.1 | 11 | 50 | 60 | 2.33 | <10 | 0.03 | <10 | 0.9 |
| 14422 | 1284 | <0.5 | 6.65 | 576 | 80 | 0.5 | <2 | 10.4 | <0.5 | 48 | 111 | 58 | 7.36 | 10 | 0.53 | <10 | 3.75 |
| 14423 | 1285 | <0.5 | 5.87 | 85 | 10 | 12.6 | 5 | 1.8 | <0.5 | 5 | 14 | 12 | 0.66 | 20 | 1.96 | <10 | 0.23 |
| 14424 | 1286A | <0.5 | 6.18 | 19 | 20 | 20.5 | <2 | 1.01 | <0.5 | 3 | 10 | 16 | 0.36 | 20 | 1.04 | <10 | 0.06 |
| 14425 | 1286B | <0.5 | 7.05 | 164 | 20 | 0.7 | <2 | 11.2 | <0.5 | 40 | 123 | 87 | 6.49 | 10 | 0.16 | <10 | 3.24 |
| 14426 | 1286C | <0.5 | 5.8 | 67 | 40 | 11.2 | <2 | 4.54 | <0.5 | 6 | 23 | 78 | 0.54 | 20 | 1.99 | <10 | 0.05 |
| 14427 | 1287 | <0.5 | 0.65 | 6 | <10 | <0.5 | <2 | 1.13 | <0.5 | 3 | 15 | 54 | 0.43 | <10 | 0.02 | <10 | 0.04 |
| 14428 | 1288A | <0.5 | 7.16 | 83 | 130 | 0.5 | <2 | 14.65 | <0.5 | 23 | 83 | 175 | 4.7 | 20 | 0.89 | <10 | 2.02 |
| 14429 | 1288B | <0.5 | 4.47 | 132 | 40 | 0.7 | <2 | 22.4 | <0.5 | 16 | 38 | 36 | 2.15 | 10 | 0.27 | <10 | 0.69 |
| 14430 | 1289 | <0.5 | 11.1 | 50 | <10 | <0.5 | <2 | 16.6 | <0.5 | 25 | 65 | 341 | 2.38 | 10 | 0.01 | <10 | 0.93 |
| 14432 | 1291 | <0.5 | 6.74 | 31 | 20 | 1.5 | <2 | 14.5 | 0.7 | 48 | 113 | 202 | 6.87 | 10 | 0.1 | <10 | 2.82 |
| 14433 | 1292A | <0.5 | 7.55 | 47 | 20 | 2 | <2 | 12.1 | <0.5 | 41 | 119 | 293 | 6.67 | 10 | 0.13 | <10 | 2.89 |
| 14434 | 1292B | <0.5 | 6.61 | 15 | 30 | 7.9 | <2 | 7.99 | <0.5 | 20 | 65 | 56 | 3.89 | 10 | 0.21 | <10 | 1.25 |
| 14435 | 1293 | <0.5 | 7.56 | 22 | 30 | 0.6 | <2 | 11 | <0.5 | 41 | 123 | 61 | 6.11 | 10 | 0.16 | <10 | 3.82 |
| 14436 | 1294 | <0.5 | 6.39 | 24 | 30 | 2.3 | <2 | 15.7 | <0.5 | 32 | 112 | 126 | 6.77 | 10 | 0.17 | <10 | 2.46 |
| 14437 | 1295 | 0.6 | 4.13 | 122 | 40 | 2.2 | <2 | 22.2 | <0.5 | 25 | 95 | 55 | 4.22 | 10 | 0.25 | <10 | 1.71 |
| 14438 | 1296 | 0.7 | 8.71 | 288 | 110 | 7.2 | 3 | 10.55 | <0.5 | 48 | 137 | 263 | 6 | 30 | 0.68 | <10 | 2.44 |
| 14439 | 1297 | <0.5 | 8.11 | 40 | 10 | 1.9 | <2 | 12.35 | <0.5 | 27 | 65 | 200 | 3.36 | 10 | 0.03 | <10 | 1.7 |
| 14440 | 1298A | 0.8 | 3.53 | 504 | 120 | 3.1 | <2 | 3.8 | <0.5 | 15 | 49 | 87 | 3.19 | 10 | 0.44 | <10 | 1.5 |
| 14441 | 1298B | <0.5 | 1.5 | 6 | 10 | <0.5 | <2 | 8.44 | <0.5 | 11 | 45 | 33 | 2.43 | <10 | 0.07 | <10 | 0.88 |
| 14442 | 1299A | <0.5 | 1.3 | 118 | 20 | 0.5 | <2 | 1.22 | <0.5 | 13 | 26 | 62 | 1.77 | <10 | 0.13 | <10 | 0.56 |
| 14443 | 1300 | 0.6 | 1.53 | 517 | 50 | 0.8 | <2 | 1.32 | <0.5 | 9 | 37 | 80 | 1.64 | 10 | 0.24 | <10 | 0.53 |
| 14444 | 1301A | 2.7 | 2.83 | 44 | 10 | 0.5 | <2 | 1.74 | <0.5 | 12 | 31 | 52 | 2.3 | 10 | 0.06 | <10 | 0.83 |
| 14445 | 1301B | <0.5 | 1.54 | 9 | 30 | <0.5 | <2 | 3.27 | <0.5 | 9 | 43 | 15 | 1.74 | <10 | 0.09 | <10 | 0.55 |
| 14447 | 1302 | 0.5 | 8.92 | 372 | 40 | 3.8 | <2 | 10.1 | <0.5 | 24 | 39 | 154 | 3.26 | 10 | 0.1 | <10 | 1.28 |
| 14448 | 1303 | <0.5 | 2.89 | 108 | 30 | 8.6 | <2 | 7.34 | <0.5 | 14 | 53 | 40 | 2.49 | 10 | 0.18 | <10 | 1.24 |
| 14449 | 1304A | <0.5 | 2.95 | 5 | 10 | 0.5 | <2 | 26.2 | <0.5 | 4 | 9 | 157 | 0.42 | <10 | 0.04 | <10 | 0.13 |
| 14450 | 1305 | <0.5 | 4.67 | 12 | <10 | 1.7 | <2 | 7.27 | 0.9 | 11 | 29 | 154 | 1.47 | 10 | 0.02 | <10 | 0.55 |
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| Sample ID | Station ID | ME-ICP61 | | | | | | | | | | | | | | | | | |
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| 14454 | 1298C | 927 | <1 | 0.57 | 60 | 200 | <2 | 0.05 | <5 | 22 | 87 | <10 | <20 | 0.32 | <10 | <10 | 166 | <10 | 37 |
| 14455 | 1298D | 1350 | <1 | 1.71 | 88 | 250 | 105 | 0.01 | <5 | 37 | 108 | <10 | <20 | 0.47 | <10 | <10 | 270 | <10 | 632 |
| 14456 | 1299B | 430 | <1 | 0.26 | 15 | 60 | <2 | 0.01 | <5 | 7 | 38 | <10 | <20 | 0.07 | <10 | <10 | 43 | <10 | 17 |
| 14457 | 1301C | 861 | <1 | 0.18 | 24 | 80 | <2 | 0.04 | <5 | 7 | 40 | <10 | <20 | 0.11 | <10 | <10 | 48 | <10 | 28 |
| 14458 | 1304B | 471 | <1 | 0.81 | 29 | 110 | <2 | 0.01 | <5 | 10 | 71 | <10 | <20 | 0.14 | <10 | <10 | 66 | <10 | 23 |
| 14459 | 1308A | 1190 | <1 | 0.57 | 45 | 170 | <2 | 0.03 | <5 | 15 | 67 | <10 | <20 | 0.22 | <10 | <10 | 113 | <10 | 62 |
| 14460 | 1308B | 757 | <1 | 0.54 | 26 | 80 | <2 | 0.03 | <5 | 9 | 49 | <10 | <20 | 0.1 | <10 | <10 | 77 | <10 | 23 |
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| 14464 | 1311 | 885 | <1 | 0.03 | 45 | 100 | <2 | 0.09 | <5 | 12 | 68 | <10 | <20 | 0.17 | <10 | <10 | 97 | 40 | 178 |
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| 14467 | 1313 | 1070 | <1 | 0.03 | 13 | 40 | <2 | 0.03 | <5 | 9 | 1120 | <10 | <20 | 0.06 | <10 | <10 | 41 | <10 | 11 |
| 14469 | 1314 | 400 | <1 | 0.03 | 40 | 130 | 4 | 0.04 | <5 | 16 | 361 | <10 | <20 | 0.19 | <10 | <10 | 136 | <10 | 10 |
| 14470 | 1315A | 499 | <1 | 0.03 | 19 | 140 | <2 | 0.08 | <5 | 8 | 77 | <10 | <20 | 0.12 | <10 | 10 | 67 | <10 | 50 |
| 14471 | 1315B | 504 | <1 | 0.02 | 14 | 100 | <2 | 0.02 | <5 | 10 | 308 | <10 | <20 | 0.09 | <10 | <10 | 89 | <10 | 7 |

# APPENDIX B

# MINERAL LICENSING DOCUMENTS

NUNA | ADVOKATER
EQQARTUUSSISSUSERISUT
LAW FIRM

Nalunaq A/S
c/o Qulillerfik 2, 6.
Postboks 59
3900 Nuuk

**Nuuk**, February 2, 2017

# LEGAL OPINION

Dear Sirs:

We have acted as Greenland counsel on behalf of Nalunaq A/S as for one of its shareholders Arctic Resources Capital S.À R.L. is seeking a listing on the Toronto Stock Exchange.

Subject to the assumptions, qualifications and reservations set out below, we give this legal opinion as requested regarding Nalunaq A/S in respect of the validity and existence of their licence no. 2003/05 for mineral exploitation licence no. 2015/17 for mineral exploration.

## 1 Basis of the opinion

1.1 For the purpose of this opinion, we have examined

- Licence no. 2003/05 with exclusive exploitation rights for an area in South West Greenland
- Addendum no. 1 to licence no. 2003/05 regarding change of licensee
- Addendum no. 2 to licence no. 2003/05 regarding change of licensee
- Addendum no. 3 to licence no. 2003/05 regarding additional exploration obligations
- Licence no. 2015/17 with exclusive exploration rights for an area in west Greenland
- Addendum no. 1 to licence no. 2015/17 regarding change of licensee
- Addendum no. 2 to licence no. 2015/17 regarding change of licence area

referred to as "the Licences" and "the Documents" )

## 2 Assumptions



Nuna Advokater ApS, Qullilerfik 2, 6., Boks 59, 3900 Nuuk, Grønland (ApS reg. nr.: 452478)
T: (299) 32 13 70 • F: (299) 32 41 17 • E: email@nuna-law.gl • H: www.nuna-law.gl

2.1 For the purpose of giving this opinion, we assume the following:

2.1.1 The authenticity, completeness and accuracy of the copy of the Documents, and that the Documents are true and conform to the documents executed and that they are executed in the manner appearing on the copies and that all materials supplied to us have been supplied in full and have not subsequently been amended, altered or withdrawn.

2.1.2 The genuineness of the signatures on all original documents or copies thereof which we have examined and that the identities of the signatories are as stated to us.

2.1.3 The accuracy and completeness of all factual matters, factual representations, warranties and other factual information described or set forth in the Documents.

**3 Opinion**

Based on the foregoing assumptions and subject to the qualifications set out below, we are of the opinion that as of the date hereof:

3.1 **<u>The Mineral Resources Act</u>**

3.1.1 The Greenland Parliament Act no. 7 of December 7, 2009 on mineral resources and mineral resource activities as amended by Greenland Parliament Act no. 26 of December 18, 2012, Greenland Parliament Act no. 6 of 8 June 2014 and Greenland Parliament Act no. 34 of 28 November 2016, governs activities concerning and rights to exploration and exploitation of mineral deposits in Greenland ("Mineral Resources Act"). The act came into force as of 1 January 2010 whereas the amendments took effect as from 1st January 2013, 1st July 2014 and 1st January 2017.

All licences with exclusive rights for exploration or exploitation granted before 1 January 2010 remain valid and shall be regulated by the Mineral Resources Act, cf. Section 98, subsection 4.

Also, the *"Application procedures and standard terms for exploration and prospecting licences for minerals in Greenland"* of 16 November 1998 as amended on September 10, 2010, and June 25, 2013, ("Application Procedures and Standard Terms") published by the MLSA and set out in Appendix 1 will still apply to existing and new licences with the relevant changes in terms of the regulative body, until these standard terms are abolished or substituted by new terms and conditions stipulated by the MLSA pursuant to the Mineral Resources Act, see Section 98, subsection 5. MLSA may also introduce new rules and regulations with retrospective effect on existing licences in accordance with Section 98.

After the 2013 election, the Government of Greenland announced the wish for a new taxation model for exploitation licences. As a result, the Government of Greenland has amended the standard terms for licences for exploration for minerals (excluding hydrocarbons) in Greenland by addendum no. 3, including appendices 1-4. Addendum no. 1 and no. 2 have been included in the Application Procedures and Standard Terms 25th of June 2013. Addendum no. 3 has not yet been included in the Application Procedures and Standard Terms 25th of June 2013 and is therefore attached separately as Appendix 2.

### 3.1.2 The responsible authorities

The Greenland Government (in Greenland: "Naalakkersuisut") has the right to control and use mineral resources in Greenland according to Section 2(1) of the Mineral Resources Act.

The Mineral Resource Authority under the Greenland Government comprises:

1) the Ministry of Mineral Resources (MMR) who is responsible for strategy-making, policy-making, legal and geological issues and marketing of mineral resources in Greenland,
2) the Mineral Licence and Safety Authority (MLSA) as the one-door authority. The MLSA is the overall administrative authority for licences and mineral resource activities, and is the authority for safety matters including supervision and inspections,
3) the The Environmental Agency for the Mineral Resources Area (EAMRA) being the administrative authority for environmental matters relating to mineral resources activities, including protection of the environment and nature, environmental liability and environmental impact assessments (EIA), and
4) the Ministry of Industry, Labour and Trade (MILT) who is the authority for issues concerning industry and labour policy including social impact assessments (SIA) and impact benefit agreements (IBA) for mineral resources and similar related socio economic issues.

According to Section 3 of the Mineral Resources Act the Greenland Government ensures that all matters relating to mineral resources and mineral resource activities are considered as a single, integral whole by the MLSA, unless other Acts or rules provide that other authorities are to consider the matter.

According to the Mineral Resources Act section 88 a transfer of shares in the licencee constitutes an indirect transfer of the licence which requires Government approval. The application for such approval is processed by the MLSA.

## 3.2 **The Licences**

### 3.2.1 The specific terms of the Licences

The specific terms of the Licences are listed in the Summary of the Licence attached in Appendix 3. A copy of the Licences is attached as Appendix 4-5.

The MLSA has by two letters dated on 24 January 2017 (attached as Appendix 6) confirmed the following information regarding the Licences:

Licence no. 2003/05

a) the Licence is valid;

MLSA: *The licence is valid;*

b) Nalunaq A/S is the sole owner of the Licence;

MLSA: *Nalunaq A/S is the sole owner of the licence;*

c) of the date where the licence period under licence no. 2003/05 expires.

MLSA: *the licence period for exploitation licence no. 2003/05 expires on 24$^{th}$ April 2033;*

d) of the minerals covered by the Licence;

MLSA: *The activities under the licence are aimed at exploitation of gold;*

e) of deposits or any other security that has been required to be paid to MLSA under the Licence and the relevant amount(s);

MLSA: *the MLSA has registered an Escrow account in relation to environmental monitoring of previous activities under the licence. No other deposit or security has been required to be paid to the MLSA under the licence;*

f) that all payments due to this date under the Licence have been paid;

MLSA: *all payments due to this date under the licence have been paid;*

g) The MLSA has up to this date not requested the licensee to remedy any non-performance of obligations under the Licence.

MLSA: *MLSA has up to this date not requested the licensee to remedy any non-performance of obligations under the licence;*

h) that the required plans according to the licence and the Mineral Resources Act have been approved; in the opposite case please inform us of the plans that have not been approved;

MLSA: *required plans according to the licence and the Mineral Resources Act are submitted for approval on a continuous basis. There are currently no outstanding plans which should have been approved at this date;*

i) that the reporting for the Licence have been approved; in the opposite case please inform us of the reporting that have not been approved; and

MLSA: *reporting related to activities carried out in 2016 is currently being reviewed. The MLSA is not aware at this point of any substantial outstanding issues related to this reporting. Previous reporting for the licence has been approved*

j) that neither the Government of Greenland nor MLSA has received any request for approval of any transfer of ownership or pledge of the licence

MLSA: *neither the Government of Greenland nor MLSA has received any request for approval of any transfer of ownership or pledge of the licence;*

Licence no. 2015/17

a) the Licence is valid;

MLSA: *The licence is valid;*

b) Nalunaq A/S is the sole owner of the Licence;

MLSA: *Nalunaq A/S is the sole owner of the licence;*

c) The current licence period under licence no. 2015/17 constitutes year 1-5.

MLSA: *The current licence period under licence no. 2015/17 constitutes years 1-5;*

d) The Licence covers exploration for all mineral resources except hydrocarbons, hydropower resources and radioactive elements.

MLSA: *The licence covers exploration for all mineral resources except hydrocarbons, hydropower resources and radioactive elements;*

e) No deposit or any other security has been required to be paid to the MLSA under the Licence; in the opposite case please inform us of the relevant amount(s);

MLSA: *No deposit or any other security has been required to be paid to MLSA under the licence;*

f) All payments due to this date under the Licence have been paid.

MLSA: *all payments due to this date under the licence have been paid;*

g) The MLSA has up to this date not requested the licensee to remedy any non-performance of obligations under the Licence.

MLSA: *MLSA has up to this date not requested the licensee to remedy any non-performance of obligations under the licence;*

h) The reporting for the Licence, cf. chapter 7 of the Rules of field work and reporting, have been approved; in the opposite case please inform us of the reporting that have not been approved.

MLSA: *the reporting for the licence has been approved;*

i) Neither the Government of Greenland nor MLSA has received any request for approval of any transfer of ownership or pledge of the licence

MLSA: *neither the Government of Greenland nor MLSA has received any request for approval of any transfer of ownership or pledge of the licence;*

## 4 Qualifications

The foregoing opinions are subject to the following qualifications:

All information provided by the MLSA is received by us "as is" and no legal obligations shall be made by or arise out of the provision of the said information or any errors, omissions or inaccuracies in the said information. The Government of Greenland and the MLSA do not in any manner warrant, guarantee or represent that the information is accurate, correct or complete. The Government of Greenland and the MLSA shall not be responsible or liable in any manner for any errors, omissions or inaccuracies in this letter or any damage or loss directly or indirectly caused by or arising out of such errors, omissions or inaccuracies.

This opinion is strictly limited to the matters stated herein and may not be read as extending by implication to any matters not specifically referred to. Nothing in this opinion should be taken as expressing an opinion in respect of any representations or warranties, or other information contained in the Documents or any other documents examined in connection with this opinion, except as expressly confirmed herein.

We express no opinion on any laws other than the laws of Greenland as they currently stand.

This legal opinion is given to the above address in connection with Arctic Resources Capital S.À R.L. seeking a listing on the Toronto Stock Exchange. It may not be relied upon by any other person or for any other purposes.

Neither the contents nor the existence of this opinion may be disclosed without our prior written consent except i) where ordered by law, court order or by a relevant regulatory body, or ii) in connection with any disputes and legal proceedings to which you are a party relating to the Licence, subject in such case to our prior written consent.

This legal opinion is governed by and construed in accordance with Greenland law and subject to the exclusive jurisdiction of the courts of Greenland.

Yours sincerely

Peter Schriver

**APPENDICES**

Appendix 1: Application procedures and standard terms for exploration and prospecting licences for minerals in Greenland" of 25 June 2013 ("Application Procedures and Standard Terms")

Appendix 2: Addendum no. 3 to the standard terms of 1 July 2014

Appendix 3: Summary of the Licences

Appendix 4: Copy of licence No. 2003/05 including addendum no. 1, 2 and 3 to the licence

Appendix 5: Copy of licence No. 2015/17 including addendum no. 1 and 2 to the licence

Appendix 6: Letters dated 24. January 2017 from the Mineral Licence and Safety Authority

**APPENDIX 3**

# SUMMARY OF LICENCES

| | |
|---|---|
| **Licence no.** | **2003/05** |
| **Type** | Exploitation licence (exclusive) |
| **Type of minerals** | All mineral resources except hydrocarbons, hydropower resources and radioactive elements. |
| **Licence Area** | South West Greenland (22 km²) |
| **Registered hold-er/owner** | Nalunaq A/S |
| **Date of grant** | 24 April 2003 |
| **Expiration** | Expires on 24 April 2033 |
| **Renewal rights** | At expiration the licence period may be extended to a maximum of 50 years |
| **Annual Licence Fee 2017** | None<br>The licensee shall reimburse all related and factual expenses associated with processing by authorities in relation to the exploitation licence |
| **Minimum exploration commitments** | According to addendum no. 2 to the licensee budgets to spend estimated exploration expenses of USD 9,600,000 for exploration activities during the period 1 January 2017 to 31 December 2018. |
| **Milestones** | No later than 31 December 2019 the licensee shall demonstrate to the MLSA that the Licensee has completed a bankable feasibility study and shall submit a report on the bankable feasibility study to the MLSA<br>No later than 31 December 2019 the licensee shall prepare an Environmental Impact Assessment and a Social Impact Assessment regarding all planned exploration activities and submit reports on these to the MLSA<br>No later than 31 December 2020 the licensee shall negotiate, conclude and perform an Impact Benefit Agreement<br>The tinelimit for commencement of exploitation is 1 Jnauary 2021 |

APPENDIX 4

# TILLADELSE NR. 2003/05 MED ENERET TIL UDNYTTELSE AF MINERALSKE RÅSTOFFER (EXCL. KULBRINTER) FOR NALUNAQ GOLD MINE A/S FOR ET LANDOMRÅDE I NAPASORSUAQ VED NANORTALIK I SYDVESTGRØNLAND

Grønlands Hjemmestyre
RÅSTOFDIREKTORATET
APRIL 2003

## Indhold

# TILLADELSE NR. 2003/05 TIL UDNYTTELSE AF MINERALSKE RÅSTOFFER FOR NALUNAQ GOLD MINE A/S FOR ET LANDOMRÅDE I NAPASORSUAQ VED NANORTALIK I SYDVESTGRØNLAND

Landsstyret meddeler herved i henhold til §§ 7 og 15 i lov nr. 335 af 6. juni 1991 om mineralske råstoffer i Grønland (råstofloven) med senere ændringer, jf. lovbekendtgørelse nr. 368 af 18. juni 1998, nedennævnte rettighedshaver en tilladelse med eneret til udnyttelse for et landområde ved Nanortalik i Sydvestgrønland. Tilladelsen meddeles på de i kapitlerne 1, 3, 5, 7, 10 og 11 i råstofloven indeholdte bestemmelser og på de deri angivne vilkår samt på de vilkår, som er angivet nedenfor.

Rettighedshaveren er:

Nalunaq Gold Mine A/S
3922 Nanortalik
Reg. nr. A/S307112

For en andel på 100%.

## § 1. Krav til rettighedshaveren

101. Rettighedshaveren skal i hele tilladelsesperioden være et eller flere selskaber, som opfylder vilkårene i medfør af råstoflovens § 7, stk. 3, dvs.;

a. er aktieselskaber med hjemsted i Grønland, og således omfattet af grønlandsk beskatning,
b. alene udfører virksomhed i medfør af tilladelser efter råstofloven;
c. ikke sambeskattes med andre selskaber; og
d. råder over den fornødne sagkundskab og økonomiske baggrund for udnyttelsesvirksomhed i henhold til denne tilladelse.

## § 2. De af tilladelsen omfattede mineralske råstoffer

201. Tilladelsen omfatter udnyttelse af alle mineralske råstoffer med undtagelse af kulbrinter og radioaktive grundstoffer.

## § 3. Det af tilladelsen omfattede område

301. Tilladelsen omfatter et landområde som afgrænset i bilag 1. Et kort over området er medtaget som bilag 2.

302. Hvis det af tilladelsen omfattede område eller dele heraf ophører med at være undergivet dansk højhedsret, skal rettighedshaveren respektere en sådan ændring af områdets status og vil ikke være berettiget til at rejse krav om erstatning eller anden form for kompensation mod det grønlandske hjemmestyre eller mod den danske stat som resultat af eller i forbindelse med en sådan ændring af status. Den danske stat vil bestræbe sig for at

udvirke, at den, der opnår højhedsret over området, respekterer rettighedshaverens rettigheder i henhold til tilladelsen.

## § 4. Den af tilladelsen omfattede periode

401. Tilladelsen gælder i 30 år fra Landsstyrets underskrift.

402. Udnyttelsesperioden kan af Landsstyret forlænges i overensstemmelse med råstoflovens § 15, stk. 3, men kan ikke overstige 50 år, jfr. råstoflovens § 7, stk. 4.

403. Rettighedshaveren kan med 12 måneders varsel til Råstofdirektoratet bringe tilladelsen til ophør. Tilladelsen kan dog ikke bringes til ophør, før nedlukningsaktiviteterne er afsluttet i overensstemmelse med punkt 801 - 807.

## § 5. Gebyrer og afgifter

501. Rettighedshaveren skal betale et gebyr på DKR 100.000 til Råstofdirektoratet ved meddelelse af tilladelsen, jf. råstoflovens § 7, stk. 6. Beløbet skal betales senest 30 dage efter datoen for Landsstyrets underskrift af tilladelsen.

## § 6. Andres virksomhed i det af tilladelsen omfattede område

601. Rettighedshaveren skal respektere bestående rettigheder og tilladelsen indebærer ikke indskrænkninger i andres udøvelse af lovlig aktivitet i det af tilladelsen omfattede område, herunder de i punkt 602 nævnte aktiviteter. Rettighedshaveren kan dog i fornødent omfang, med Råstofdirektoratets forudgående godkendelse, foretage afspærring af begrænsede landarealer med henblik på at sikre gennemførelsen af konkrete aktiviteter.

602. Inden for det af tilladelsen omfattede område kan andre parter end rettighedshaveren;

a. blive meddelt tilladelser i henhold til råstoflovens kapitel 2 og 3 til forundersøgelse, efterforskning og udnyttelse vedrørende andre mineralske råstoffer end de af tilladelsen omfattede;

b. blive meddelt godkendelser af anlæg og drift af rørledninger, installationer, infrastruktur m.m. med henblik på aktiviteter i henhold til råstofloven;

c. foretage videnskabelige undersøgelser som angivet i råstoflovens § 2, stk. 2 og § 21.

603. De aktiviteter, der udføres i henhold til punkt 602 a-c, skal udføres på en sådan måde, at rettighedshaverens aktiviteter under denne tilladelse ikke hindres unødigt. Tilsvarende skal rettighedshaveren drage omsorg for, at sådanne andre parters aktiviteter indenfor tilladelsesområdet ikke hindres unødigt.

## § 7. Udnyttelsesplan (opbygning, produktion og nedlukning)

701. I forbindelse med tilladelsens meddelelse skal rettighedshaveren og Råstofdirektoratet i fællesskab drøfte tilrettelæggelsen af opbygningsaktiviteterne frem til produktionens påbegyndelse. Drøftelserne skal bl.a. danne grundlag for udarbejdelse af en fælles tidsplan for opbygningsarbejdet omfattende bl.a. følgende aktiviteter:

a. Rettighedshaverens udarbejdelse og fremsendelse til Råstofdirektoratet af den i punkt 702 nævnte udnyttelsesplan omfattende opbygning, produktion og nedlukning. Materialet skal så vidt muligt udarbejdes og fremsendes således, at den overordnede plan for udnyttelse fremsendes først.

b. Rettighedshaverens udarbejdelse i samarbejde med Råstofdirektoratet af en vurdering af de miljømæssige konsekvenser vedrørende den konkrete udnyttelse. Denne vurdering skal fremsendes som del af det i punkt 701.a nævnte materiale. Råstofdirektoratet kan kræve, at der sker ændringer, tilføjelser eller udeladelser i vurderingen, såfremt den efter Råstofdirektoratets opfattelse ikke er fyldestgørende.

c. Råstofdirektoratets behandling af rettighedshaverens udnyttelsesplan, herunder nedlukningsplanen. Denne behandling foretages så vidt muligt således, at der på det under punkt 701.a-b nævnte grundlag først tages stilling til den overordnede plan for udnyttelsen.

Tidsplanen skal angive de tidsterminer, efter hvilke parterne i et samarbejde sigter mod at tilrettelægge udførelsen af deres respektive opgaver. Rettighedshaveren og Råstofdirektoratet vil bestræbe sig på bedst muligt at opfylde den herved tilvejebragte tidsplan.

702. Efter tilladelsens meddelelse skal rettighedshaveren til Råstofdirektoratet fremsende en udnyttelsesplan omfattende opbygning, produktion og nedlukning, i overensstemmelse med råstoflovens §§ 10 og 19. Dette materiale skal indeholde alle de fornødne konkrete planer for virksomheden, herunder aktiviteter vedrørende opbygning, produktion, lagring, tailings- og wastedeponering, transport og nedlukning. Nedlukningsplanen skal indeholde omkostningsskøn vedrørende nedlukningsaktiviteterne, jf. punkt 802.

703. Ved tilladelsens meddelelse og på grundlag af de i punkt 701 nævnte drøftelser fastsætter Råstofdirektoratet en frist for rettighedshaverens indsendelse af en udnyttelsesplan, jf. punkt 702. Denne frist skal fastsættes således, at rettighedshaveren har rimelig tid til at udarbejde materialet.

704. Inden påbegyndelse af opbygning og produktion skal de i punkt 702 nævnte planer være godkendt i overensstemmelse med råstoflovens §§ 10 og 19.

705. Rettighedshaveren skal iværksætte udnyttelse senest på det tidspunkt, som fastsættes i godkendelsen i henhold til punkt 704. Denne frist skal fastsættes således, at rettighedshaveren har rimelig tid til at udføre den godkendte opbygningsplan.

## § 8. Forpligtelser ved virksomhedens ophør

801. Nedlukningsplanen i henhold til punkt 704 skal regelmæssigt ajourføres og skal endvidere revideres ved væsentlige ændringer af udnyttelsesvirksomheden. Ændringer i nedlukningsplanen skal godkendes af Råstofdirektoratet, jf. råstoflovens § 19, stk. 4 og § 18, stk. 2. Råstofdirektoratet kan med 12 måneders varsel anmode rettighedshaveren om at fremsende en revideret nedlukningsplan til Råstofdirektoratets godkendelse.

802. I forbindelse med godkendelse af nedlukningsplanen, jf. punkt 704 og 804, skal finansieringen af nedlukningsplanen drøftes mellem rettighedshaveren og Råstofdirektoratet, herunder;

a. de regnskabsmæssige principper som skal danne grundlag for beregning af årlige hensættelser til dette formål; og

b. principper til sikring af at de akkumulerede hensættelser er intakte, når nedlukningsaktiviteter påbegyndes.

Rettighedshaveren kan fremsende forslag til finansiering af nedlukningsplanen.

803. Som led i rapporteringen i henhold til punkt 1101 skal rettighedshaveren hvert år fremsende en opgørelse af de hensatte beløb til gennemførelse af nedlukningsplanen. Opgørelsen skal godkendes af Råstofdirektoratet.

804. Indstilling af udnyttelsesvirksomheden for en periode med henblik på senere genoptagelse af virksomheden kræver Råstofdirektoratets godkendelse i henhold til råstoflovens § 20, stk. 1, jf. også råstoflovens § 20, stk. 2.

805. Ved udnyttelsesvirksomhedens ophør skal nedlukningsaktiviteter udføres af rettighedshaveren i overensstemmelse med nedlukningsplanen, jf. dog punkt 806. Inden påbegyndelse skal nedlukningsaktiviteter være godkendt af Råstofdirektoratet, jf. punkt 902. Såfremt rettighedshaveren overskrider den til gennemførelse af nedlukningsarbejdet fastsatte tidsfrist og ikke efterkommer et påbud om udførelse af nedlukningsaktiviteter inden en af Råstofdirektoratet fastsat tidsfrist, kan Råstofdirektoratet lade sådanne aktiviteter foretage for rettighedshaverens regning og risiko, jf. råstoflovens § 18, stk. 3.

806. Rettighedshaveren kan forud for påbegyndelse af nedlukningsaktiviteter sælge eller på anden måde overdrage bygninger, faciliteter, installationer m.m., som er etableret med henblik på den virksomhed, der udøves i henhold til tilladelsen, til andre, herunder grønlandske eller danske myndigheder. Salg eller overdragelse af denne karakter skal godkendes af Råstofdirektoratet og forudsætter, at de andre parter påtager sig nedlukningsforpligtelser svarende til rettighedshaverens forpligtelser, med mindre ændringer af disse godkendes af Råstofdirektoratet. Bygninger, faciliteter, installationer m.m., for hvilke salg eller overdragelse godkendes, udgår af rettighedshaverens nedlukningsplan.

807. Det samlede hensatte beløb tilhører rettighedshaveren, men kan kun anvendes til nedlukningsformål. Hvis omkostningerne ved nedlukningsaktiviteterne er mindre end det hensatte beløb, er det resterende hensatte beløb til rådighed for rettighedshaveren, når nedlukningsaktiviteterne er afsluttet. Hvis omkostningerne ved nedlukningsaktiviteterne overstiger det hensatte beløb, skal de resterende omkostninger betales af rettighedshaveren, når de forfalder til betaling.

## § 9. Godkendelse m.m. af aktiviteter

901. Rettighedshaverens virksomhed skal gennemføres i overensstemmelse med under tilsvarende forhold anerkendt god international praksis for udnyttelsesvirksomhed af den pågældende karakter. Virksomheden skal udføres miljø- og sikkerhedsmæssigt forsvarligt, på en hensigtsmæssig måde og således, at udnyttelsen foregår ressourcemæssigt forsvarligt.

902. Rettighedshaveren skal fremsende planer for sin virksomhed i henhold til tilladelsen, herunder opbygnings-, produktions-, lagrings-, transport- og nedlukningsaktiviteter, til Råstofdirektoratets godkendelse, jf. også punkt 704. En aktivitet må ikke iværksættes uden forudgående tilladelse. Ved godkendelsen kan Råstofdirektoratet fastsætte, at bestemt udstyr og materiel ikke må anvendes, eller at aktiviteterne ikke må udføres i bestemte områder og perioder. Tilsvarende kan Råstofdirektoratet pålægge rettighedshaveren at foretage monitering (overvågning) af biologiske og fysiske forhold vedrørende områder, der berøres af rettighedshaverens aktiviteter.

903. Rettighedshaveren kan etablere bygninger, produktionsanlæg, installationer, lager- og transportfaciliteter m.m. inden for og uden for det af tilladelsen omfattede område, forudsat de er godkendt af Råstofdirektoratet, jf. råstoflovens §§ 10 og 25, stk. 1. Etablering af sådanne bygninger, produktionsanlæg, installationer, lager- og transportfaciliteter m.m. uden for det af tilladelsen omfattede områder kræver dog, udover Råstofdirektoratets godkendelse, tilladelse i henhold til den for Grønland gældende arealanvendelseslovgivning.

904. I henhold til råstoflovens § 24 kan der fastsættes nærmere regler (forskrifter) for udførelse af virksomhed omfattet af udnyttelsestilladelser i og uden for det af en tilladelsen omfattede område, herunder regler (forskrifter) vedrørende tekniske, sikkerhedsmæssige, miljømæssige og ressourcemæssige forhold.

905. Rettighedshaveren skal træffe alle nødvendige foranstaltninger for at sikre, at arbejdet ikke frembyder fare for personer eller anden mands ejendom. Ligeledes skal rettighedshaveren drage omsorg for, at risikoen for forurening samt risikoen for skadelig indvirkning på miljøet såvel i som uden for det af tilladelsen omfattede område begrænses mest muligt.

906. Såfremt rettighedshaverens aktiviteter frembyder fare for personer eller anden mands ejendom, eller såfremt risikoen for forurening eller skadelig indvirkning på miljøet overstiger det efter Råstofdirektoratets skøn acceptable, kan Råstofdirektoratet påbyde rettighedshaveren inden for en af Råstofdirektoratet fastsat tidsfrist at afhjælpe forholdet og at udbedre eventuelle skader. Såfremt Råstofdirektoratet finder det nødvendigt, kan Råstofdirektoratet endvidere påbyde rettighedshaveren at indstille arbejdet helt eller delvist, indtil rettighedshaveren har afhjulpet forholdet.

907. Rettighedshaveren skal løbende foretage oprydning og udbedre skader på terræn og vegetation, hvor dette er en følge af rettighedshaverens aktiviteter.

## § 10. Tilsyn

1001. Råstofdirektoratet fører tilsyn med rettighedshaverens aktiviteter i henhold til tilladelsen og kan udpege andre til at udføre tilsynet. Tilsynsførende har i alle henseender ret til at følge alle rettighedshaverens aktiviteter og til fra rettighedshaveren at forlange sig meddelt alle oplysninger vedrørende rettighedshaverens aktiviteter i henhold til tilladelsen. Tilsynsførende har til enhver tid uden retskendelse mod behørig legitimation adgang til alle dele af virksomheden i det omfang, det er nødvendigt for tilsynets varetagelse.

1002. Tilsynsførende kan udtage prøver af geologisk materiale, der er tilvejebragt som led i rettighedshaverens virksomhed.

1003. Tilsynsførende kan påtale overtrædelse af den for rettighedshaverens virksomhed gældende lovgivning eller øvrige bestemmelser og kan meddele sådanne påbud, som de finder nødvendige, jf. punkt 902 – 907.

1004. Rettighedshaveren skal afholde rimelige udgifter til tilsynsførendes transport mellem inspektionsstedet og nærmeste offentlige lufthavn eller heliport i Grønland med ruteflyvning og skal efter aftale arrangere transporten. Tilsvarende gælder for tilsynsførendes ophold på inspektionsstedet og transport i tilladelsesområdet.

## § 11. Rapportering

1101. Råstofdirektoratet fastsætter forskrifter for rapportering om de aktiviteter, der udføres i henhold til tilladelsen, herunder rapportering også om økonomiske forhold samt angivelse af de datatyper, fortolkninger og andre oplysninger, som skal indgå i rapporteringen og af form og medier for fremsendelse af sådanne data. Råstofdirektoratet kan kræve yderligere oplysninger fra rettighedshaveren om aktiviteterne.

1102. Alle udgifter ved udarbejdelse af og indsendelse af rapporteringer og prøvemateriale i henhold til tilladelsen afholdes af rettighedshaveren.

## § 12. Rettighedshaverens refusion af Råstofdirektoratets udgifter vedrørende myndighedsbehandling

1201. Rettighedshaveren skal i overensstemmelse med råstoflovens § 25, stk. 5, refundere Råstofdirektoratets udgifter ved myndighedsbehandling vedrørende aktiviteter i henhold til tilladelsen.

1202. De udgifter, der i henhold til punkt 1201 skal refunderes af rettighedshaveren, beregnes og administreres på grundlag af regler, som efter drøftelse med rettighedshaveren fastsættes af Landsstyret i henhold til råstoflovens § 25, stk. 5.

## § 13. Fortrolighed

1301. Enhver rapportering fremsendt i henhold til punkt 1101 skal af Råstofdirektoratet behandles som fortroligt i 5 år fra det tidspunkt, hvor rapporteringen skulle være Råstofdirektoratet i hænde. Fortrolighedsperioden ophører dog ved tilladelsens ophør.

1302. Uanset punkt 1301 er Råstofdirektoratet berettiget til;

a. at afgive generelle udtalelser vedrørende det af tilladelsen omfattede område og den af tilladelsen omfattede virksomhed på grundlag af det af rettighedshaveren fremsendte materiale;

b. at anvende og offentliggøre, uden begrænsninger og betingelser, data af miljømæssig, teknisk, besejlingsmæssig, meteorologisk, glaciologisk og geologisk karakter, herunder geokemiske og geofysiske kort, hvis dette efter Råstofdirektoratets opfattelse vurderes at være af almen samfundsmæssig interesse, dog med undtagelse af materiale, som er under patentering.

c. at anvende og offentliggøre materiale, der er fremsendt af rettighedshaveren om generelle geologiske og geofysiske forhold, herunder generaliserede fortolkninger.

Forud for offentliggørelse i henhold til punkt 1302.b-c orienterer Råstofdirektoratet rettighedshaveren herom.

## § 14. Arbejdskraft, leverancer m.m.

1401. Rettighedshaveren skal ved udførelse af aktiviteter i henhold til denne tilladelse som udgangspunkt benytte grønlandsk arbejdskraft eller dansk arbejdskraft i øvrigt. Dog kan rettighedshaveren i det omfang, det er nødvendigt af hensyn til virksomheden, antage personale fra udlandet, når tilsvarende kvalificeret arbejdskraft ikke findes eller er disponibel i Grønland eller Danmark.

1402. Rettighedshaveren skal ved udførelse af aktiviteter i henhold til denne tilladelse som udgangspunkt benytte grønlandske virksomheder ved entrepriser og underentrepriser, leverancer samt tjenesteydelser. Dog kan rettighedshaveren kontrahere med andre virksomheder om sådanne entrepriser, leverancer og tjenesteydelser, såfremt grønlandske virksomheder ikke er konkurrencedygtige i teknisk eller kommerciel henseende. Ved grønlandske virksomheder forstås virksomheder med hjemsted i Grønland, som gennem udøvelse af erhvervsmæssig aktivitet i Grønland har en reel tilknytning til det grønlandske samfund.

1403. Råstofdirektoratet kan fastsætte forskrifter for rekruttering af personale efter punkt 1401 og forskrifter for udbud af varer og tjenesteydelser til rettighedshaverens aktiviteter med henblik på at give grønlandske virksomheder mulighed for at udføre entrepriser og underentrepriser, jf. punkt 1402. Der kan endvidere fastsættes forskrifter om indsendelse af oplysninger om de i punkt 1401 og 1402 anførte forhold.

## § 15. Samarbejdsaftale

1501. Råstofdirektoratet kan i henhold til råstoflovens § 27 godkende overdragelse af andele af tilladelsen til en eller flere nye parter. Såfremt flere parter får andele i tilladelsen, skal samarbejdet mellem parterne om udøvelse af virksomheden fastlægges i en samarbejdsaftale (Joint Operating Agreement), der skal underskrives af parterne senest 4 måneder efter Råstofdirektoratets godkendelse af overdragelsen.

1502. Samarbejdsaftalen i punkt 1501, enhver tilføjelse, ændring eller udeladelse hertil samt udpegning af operatør skal godkendes af Råstofdirektoratet.

1503. Hvis rettighedshaveren omfatter flere parter, skal der udpeges en operatør for tilladelsen. Udpegning af operatør og ophør af operatørskab kræver Råstofdirektoratets godkendelse.

## § 16. Overdragelse af tilladelsen

1601. Tilladelsen eller dele heraf kan hverken direkte eller indirekte overdrages til andre, medmindre overdragelsen godkendes i overensstemmelse med råstoflovens § 27.

1602. Tilladelsen er undtaget fra retsforfølgning.

1603. Såfremt en långiver, der finansierer rettighedshaverens udbygning og udnyttelse af mineralske råstoffer, stiller som betingelse herfor, at denne tilladelse eller en andel heraf eventuelt senere skal kunne overdrages til den pågældende långiver, kan RD i overensstemmelse med råstoflovens § 27 meddele forhåndstilsagn om, at RD i så fald på nærmere vilkår godkender en sådan overdragelse uden ændringer af vilkårene i denne tilladelse.

## § 17. Tilbagekaldelse af tilladelsen

1701. Tilladelsen kan tilbagekaldes i følgende tilfælde, jf. råstoflovens § 28.

a. Såfremt rettighedshaveren tilsidesætter de vilkår, som er fastsat i tilladelsen, eller de bestemmelser, som er fastsat med hjemmel i råstofloven eller med hjemmel i tilladelsen, samt såfremt rettighedshaveren overskrider fastsatte tidsfrister.

b. Såfremt rettighedshaveren har handlet svigagtigt ved afgivelse af oplysninger over for Råstofdirektoratet.

c. Såfremt et eller flere af de selskaber, der har andel i tilladelsen, standser betalingerne, anmoder om åbning af tvangsakkordforhandling, erklæres konkurs, træder i likvidation eller kommer i en situation, der må sidestilles hermed.

1702. Tilbagekaldelse i henhold til punkt 1701.b skal ikke finde sted i tilfælde af, at rettighedshaveren har afhjulpet forholdet indenfor en af Råstofdirektoratet fastsat rimelig frist. Er forholdet ikke afhjulpet inden fristens udløb, kan tilladelsen tilbagekaldes uden yderligere varsel.

1703. Hvis en misligholdelse under punkt 1701.a skyldes, at rettighedshaveren forhindres i at opfylde betingelserne m.m. på grund af omstændigheder, der ligger uden for rettighedshaverens rimelige kontrol, og som ikke med rimelighed kunne være forudset og/eller med rimelighed være imødegået af rettighedshaveren (force majeure), sker der ikke tilbagekaldelse af tilladelsen på grund af en sådan misligholdelse i den periode, hvor opfyldelsen påvirkes af force majeure, forudsat rettighedshaveren genoptager arbejdet med henblik på opfyldelse af betingelserne så hurtigt som muligt og i videst mulig udstrækning. Mangel på betalingsmidler anses ikke som force majeure. Hvis rettighedshaveren på grund af force majeure helt eller delvist er ude af stand til at opfylde betingelserne m.m. i henhold til tilladelsen, skal rettighedshaveren omgående fremsende skriftlig meddelelse herom til Råstofdirektoratet med angivelse af karakteren, omfanget og den forventede varighed af den pågældende force majeure.

1704. I tilfælde af en situation som angivet i punkt 1701.c er Råstofdirektoratet indstillet på at godkende, at den pågældende parts andel overdrages til en eller flere af de øvrige parter, der har andel i tilladelsen, forudsat rettighedshaveren fortsat råder over den nødvendige sagkundskab og økonomisk baggrund for virksomheden i henhold til tilladelsen. I så fald tilbagekaldes tilladelsen ikke i medfør af punkt 1701.c.

## § 18. Renter af skyldige beløb

1801. Såfremt rettighedshaveren ikke betaler gebyrer og andre skyldige beløb rettidigt, skal rettighedshaveren betale en årlig rente af det skyldige beløb svarende til Danmarks Nationalbanks officielle udlånsrente med tillæg af 7 % p.a. Tilsvarende gælder beløb, der af Råstofdirektoratet skal betales til rettighedshaveren.

## § 19. Erstatningsansvar og forsikring

1901. Rettighedshaveren er erstatningsansvarlig for skader, der forvoldes ved den af tilladelsen omfattede virksomhed, efter lovgivningen og dansk rets almindelige erstatningsregler.

1902. Rettighedshaverens virksomhed i henhold til tilladelsen skal være dækket af forsikring, herunder en ansvarsforsikring, som til enhver tid giver en rimelig dækning af de mulige forsikringsbegivenheder. Råstofdirektoratet skal ved udgangen af hvert kalenderår, eller på forespørgsel, underrettes om gældende forsikringer med angivelse af hovedvilkårene. Råstofdirektoratet kan kræve, at rettighedshaveren fremsender samtlige forsikringsvilkår samt at yderligere forsikringer tegnes. Rettighedshaveren er i øvrigt pligtig at følge de forskrifter om forsikring, der måtte blive fastsat af Råstofdirektoratet.

1903. Rettighedshaveren skal friholde staten og Grønlands Hjemmestyre for ethvert krav, der af tredjemand måtte blive rettet mod staten og Grønlands Hjemmestyre som følge af den i henhold til tilladelsen udøvede virksomhed, forudsat rettighedshaveren i tide har fået mulighed for at gøre forsvar gældende overfor sådanne krav, og at sagen er afgjort ved;

a. et forlig, som rettighedshaveren forud har godkendt;

b. en endelig dom; eller

c. en voldgiftsafgørelse i de tilfælde, hvor den, der fremsætter kravet, forud for skadens indtræden havde ret til behandling af sagen ved voldgift.

## § 20. Solidarisk hæftelse og garantier

2001. Såfremt flere parter har andele i tilladelsen, hæfter parterne solidarisk for opfyldelsen af enhver forpligtelse i henhold til tilladelsen, herunder forpligtelsen til at erstatte skader, der forvoldes ved den i henhold til tilladelsen udøvede virksomhed, uanset parternes andel i tilladelsen.

2002. Til sikring af opfyldelsen af rettighedshaverens forpligtelser i henhold til tilladelsen skal det endelige moderselskab for hvert enkelt selskab, der har andel i tilladelsen, senest 30 dage efter godkendelse af udnyttelsesplan m.m. efter punkt 704 underskrive en garanti, der skal godkendes af Råstofdirektoratet. Garantien skal omfatte såvel opfyldelse af forpligtelser over for danske og grønlandske offentlige myndigheder som erstatningsansvar i henhold til punkt 1901.

## § 21. Forholdet til anden lovgivning

2101. Tilladelsen er undergivet de til enhver tid i Grønland gældende retsregler. Tilladelsen medfører således ingen begrænsninger i Grønlands Hjemmestyres almindelige beskatningsret eller i adgangen til at fastsætte generelle bestemmelser om den nærmere udførelse af virksomhed i henhold til tilladelsen. Tilladelsen fritager ikke rettighedshaveren for at indhente de i medfør af råstofloven og anden lovgivning nødvendige godkendelser og tilladelser.

## § 22. Voldgift

2201. Afgørelser, som efter indholdet af tilladelsen beror på økonomi- og erhvervsministeren og landsstyrets eller Råstofdirektoratets skøn eller bestemmelse, er ikke underlagt voldgift. Denne bestemmelse afskærer ikke almindelig prøvelse ved de danske domstole.

2202. I alle andre tilfælde afgøres en tvist mellem Landsstyret og rettighedshaveren, der udspringer af tilladelsen, endeligt af en voldgiftsret i henhold til punkt 2203 – 2206.

2203. Voldgiftsretten skal bestå af 3 medlemmer, skal have sit sæde i København og skal ved sin afgørelse anvende dansk ret.

2204. Af voldgiftsrettens 3 medlemmer udpeger Landsstyret og rettighedshaveren hvert sit medlem. Landsstyret og rettighedshaveren udpeger i forening formanden for voldgiftsretten. Har en part ikke udpeget sit medlem inden 30 dage efter, at den anden part har udpeget sit medlem, udpeges den pågældende voldgiftsmand af præsidenten for Danmarks Højesteret. Har parterne ikke inden 60 dage efter, at en part har stillet forslag om en formand for voldgiftsretten, opnået enighed om valget af formanden, skal formanden udpeges af præsidenten for Danmarks Højesteret. Formanden skal være dansk statsborger.

2205. Voldgiftsretten træffer sin afgørelse ved stemmeflerhed. Voldgiftsretten fastsætter selv de nærmere regler for sagens behandling, herunder regler for fremskaffelse af bevismateriale af teknisk karakter, og træffer bestemmelse om, hvem der skal afholde omkostningerne ved voldgiften.

2206. Retten til at indbringe en sag for voldgift i medfør af tilladelsen består efter dennes ophør.

## § 23. Forpligtelser ved tilladelsens ophør

2301. Ophør af denne tilladelse fritager ikke rettighedshaveren for opfyldelsen af de forpligtelser, der påhviler denne i medfør af lovgivningen, tilladelsen eller andre fastsatte bestemmelser, vilkår eller påbud.

2302. Ved tilladelsens ophør kan Råstofdirektoratet inden for 1 år fra ophøret vederlagsfrit overtage alle data, borekerner og andre prøver, som er tilvejebragt af rettighedshaveren eller på dennes vegne vedrørende tilladelsesområdet. Efter dette tidspunkt kan rettighedshaveren når som helst kassere sådanne data, borekerner og andre prøver.

2303. Råstofdirektoratets adgang i henhold til punkt 2302 til at overtage data, borekerner og andre prøver kan udskydes, såfremt der mellem rettighedshaveren og Råstofdirektoratet indgås aftale om en tilfredsstillende opbevaring og adgang for tredjemand vedrørende de pågældende data, borekerner og andre prøver.

## § 24. Oversættelser

2401. Tilladelsen er udfærdiget på dansk og oversættelser heraf har ingen retlig gyldighed.

Nuuk, den

| | |
|---|---|
| Nalunaq Gold Mine A/S | Landsstyret |

## BILAG 1

**Afgrænsning af tilladelsesområdet ved Nanortalik.**

Tilladelsen omfatter landområdet indenfor et område afgrænset af følgende hjørnekoordinater forbundet med bredde- og længdegrader, jf. kortet over tilladelsesområdet i bilag 2:

| | | | | | |
|---|---|---|---|---|---|
| 1: | 60°21'N | 44°48'W | 2: | 60°21'N | 44°49'W |
| 3: | 60°20'N | 44°49'W | 4: | 60°20'N | 44°53'W |
| 5: | 60°23'N | 44°53'W | 6: | 60°23'N | 44°49'W |
| 7: | 60°22'N | 44°49'W | 8: | 60°22'N | 44°48'W |

Alle længde- og breddegrader følger World Geodetic System Datum 1984 (WGS-84).

**BILAG 2**

GRØNLANDS SELVSTYRE
RÅSTOFDIREKTORATET

**Tilladelse nr. 2003/05**

Sagsnr.: 2009-019434
September 2009


# TILLÆG NR. 1 TIL UDNYTTELSESTILLADELSE NR. 2003/05 FOR ET LANDOMRÅDE VED NAPASORSUAQ VED NANORTALIK I SYDVESTGRØNLAND

Naalakkersuisut meddeler herved i henhold til §§ 7 og 27 i lov nr. 335 af 6. juni 1991 om mineralske råstoffer i Grønland (råstofloven) med senere ændringer, jf. lovbekendtgørelse nr. 368 af 18. juni 1998, nedennævnte ændring af udnyttelsestilladelse nr. 2003/05 for et område ved Napasorsuaq ved Nanortalik, Sydvestgrønland:

**§ 1. Rettighedshaver**

101. Rettighedshaver er:

Angel Mining (Gold) A/S
Postboks 162
3922 Nanortalik

For en andel på 100 %

**§ 2. Ikrafttræden m.m.**

201. Dette tillæg er en del af tilladelsen og vilkårene for denne gælder ligeledes for tillægget.

202. Tillægget har virkning fra Naalakkersuisuts underskrift.

28 SEP. 2009

Angel Mining (Gold) A/S

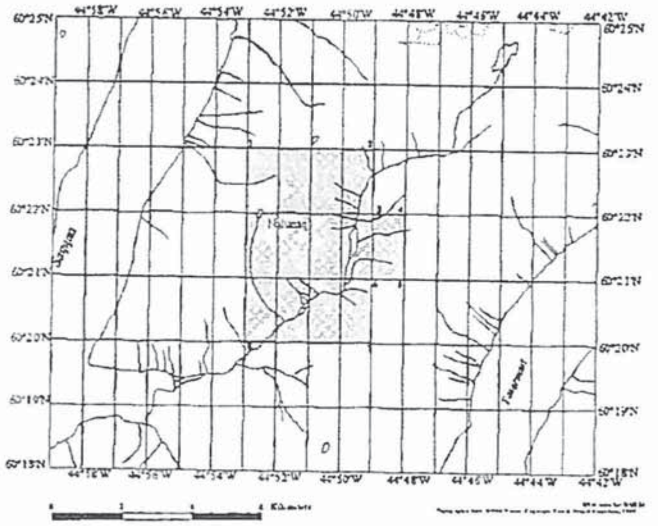
Naalakkersuisut

GRØNLANDS SELVSTYRE
RÅSTOFDIREKTORATET

**Tilladelse nr. 2003/05**

Sagsnr.: 2009-019434
September 2009
Side 2 af 2

Udnyttelsestilladelse/Exploitation Licence No. 2003/05
Angel Mining (Gold) A/S Total 22 km²



GOVERNMENT OF GREENLAND
MINERAL LICENCE AND SAFETY AUTHORITY



# ADDENDUM NO. 2 TO EXCLUSIVE LICENCE NO. 2003/05 FOR EXPLOITATION OF CERTAIN MINERALS IN A LAND AREA AT NAPASORSUAQ BY NANORTALIK IN SOUTH GREENLAND

Under sections 16 and 29 of the Greenland Parliament Act No. 7 of 7 December 2009, on Mineral Resources and Mineral Resource Activities, as amended by the Greenland Parliament Act No. 26 of 18 December 2012, the Greenland Parliament Act No. 6 of 8 June 2014 and the Greenland Parliament Act No. 16 of 3 June 2015 ("Mineral Resources Act"), the Government of Greenland hereby grants this addendum no. 2 to Exclusive Licence no. 2003/05 for Exploitation of certain Minerals in a Land Area at Napasorsuaq by Nanortalik in South Greenland ("Licence").

## § 1. Background

101. The Nalunaq gold mine stopped production in 2013 and has since been closed down according to the approved closure plan for the Licence.

102. In June 2015 the Holder of the Licence applied for a transfer of the Licence to the company Nalunaq A/S ("Licensee") which is partly owned by the ARC group and partly owned by the FBC Mining group.

103. In June 2015 the Holder of the Licence has proposed a work program and a plan for how to recommence exploitation at the Nalunaq gold mine.

## § 2. Approval of work program

201. The Government of Greenland hereby approves the work program and the plans for working towards recommencement of exploitation at the Nalunaq gold mine. The commencement of exploitation is to begin on 1 January 2021. The approval is subject to

the terms of this addendum and to the condition that the Licensee complies with the terms of this addendum.

202. The continuing licence period from 1 July 2015 to 24 April 2033 shall be divided into the following five sub periods:

a. Sub period 1: 1 July 2015 – 31 March 2016
b. Sub period 2: 1 April 2016 – 31 December 2016
c. Sub period 3: 1 January 2017 – 31 December 2018
d. Sub period 4: 1 January 2019 – 31 December 2020
e. Sub period 5: 1 January 2021 – 24 April 2033

203. If the Licensee does not comply with the terms of the Licence and its addenda, including the time limit for commencement of exploitation on 1 January 2021, as stated in section 201, and the other time limits set below, the Licence can be revoked without further notice in accordance with section 17 of the Licence.

## § 3. Additional exploration obligations

*Sub period 1*

301. In sub period 1, see section 202.a, the Licensee budgets to spend estimated exploration expenses of USD 240,000 (two hundred forty thousand) for exploration activities, including the following exploration activities:

a. Inspection and basic remediation of mine access roads and reopening of selected mine portals to gain underground access, safety inspection of underground conditions including tailings storage areas, inspection of underground processing plan, surface geological mapping and sampling and underground mapping and sampling.

302. No later than 31 March 2016, the Licensee shall document to the Mineral Licence and Safety Authority ("MLSA") that the Licensee has completed the exploration activities

stated in section 301.a. The Licensee shall also prepare and submit a report to the MLSA no later than 31 March 2016 on the exploration activities performed in sub period 1 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection therewith, and no later than 31 March 2016, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 2, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 2, the Licensee shall undertake to perform the exploration activities for sub period 2, see section 304. Furthermore, the Licensee shall document to the MLSA that the Licensee has the funds and financing necessary to spend such exploration expenses and complete such exploration activities as stated in 304 and 304.a. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 March 2016, the Licensee is not obliged to perform the exploration activities stated for sub period 2, sub period 3, sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 2 no later than 31 March 2016, the Licence shall lapse and be terminated without further notice.

303. The documentation required under section 302 is subject to the approval of the MLSA. The MLSA may set terms for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 30 April 2016.

*Sub period 2*

304. In sub period 2, see section 202.b, the Licensee budgets to spend estimated exploration expenses of USD 2,100,000 (two million one hundred thousand) for exploration activities, including the following exploration activities:

a. Diamond drilling and assay of mineralised samples, geological mapping and prospecting and related exploration activities.

305. No later than 31 December 2016, the Licensee shall document to the MLSA that the Licensee has completed the exploration activities stated in section 304.a. The Licensee shall also prepare and submit a report to the MLSA on the exploration activities performed in sub period 2 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection therewith, and no later than 31 December 2016, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 3, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 3, the Licensee shall undertake to perform the exploration activities for sub period 3, see section 307. Furthermore, the Licensee shall document to the MLSA that the Licensee has the funds and financing necessary to spend such exploration expenses and complete such exploration activities as stated in 307 and 307.a. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 December 2016, the Licensee is not obliged to perform the exploration activities stated for sub period 3, sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 3 no later than 31 December 2016, the Licence shall lapse and be terminated without further notice.

306. The documentation required under section 305 is subject to the approval of the MLSA. The MLSA may set terms for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of

Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 31 January 2017.

*Sub period 3*

307. In sub period 3, see section 202.c, the Licensee budgets to spend estimated exploration expenses of USD 9,600,000 (nine million six hundred thousand) for exploration activities, including the following exploration activities:

a. Resource delineation drilling, further exploration drilling, geological and geophysical ground surveys. Processing plant recommissioning, resources modelling and estimation activities and other related exploration activities.

308. No later than 31 December 2018, the Licensee shall document to the MLSA that the Licensee has completed the exploration activities stated in section 307.a. The Licensee shall also prepare and submit a report to the MLSA on the exploration activities performed in sub period 3 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection therewith, and no later than 31 December 2018, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 4, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 4, the Licensee shall undertake to perform the activities for sub period 4, see sections 501-502, 601-602, 701-703 and 801. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 December 2018, the Licensee is not obliged to perform the activities stated for sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 4 no later than 31 December 2018, the Licence shall lapse and be terminated without further notice.

309. The documentation required under section 308 is subject to the approval of the MLSA and any terms set for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 31 January 2019.

## § 4. Calculation and documentation of exploration expenses etc.

401. Exploration expenses for each of the sub periods 1-3, see sections 202.a-202.c, 301, 304 and 307, shall be calculated and documented in accordance with the terms stated in section 605-611 of the Standard Terms for Exploration Licences for Minerals (Excluding Hydrocarbons) in Greenland, 16 November 1998, including the two amendments thereto of 10 September 2010 and 25 June 2013, ("Standard Terms for Exploration Licences").

## § 5. Bankable feasibility study

*Sub period 4*

501. No later than 31 December 2019, the Licensee shall demonstrate to the MLSA that the Licensee has completed a bankable feasibility study and shall submit a report on the bankable feasibility study to the MLSA.

502. The bankable feasibility study and the report thereon are subject to the approval of the MLSA and any terms set for such approval. The documentation required under section 501 is subject to the approval of the MLSA. The MLSA may set terms for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance

with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 31 March 2020.

## § 6. Environmental Impact Assessment and Social Impact Assessment

*Sub period 4*

601. No later than 31 December 2019 the Licensee shall prepare an Environmental Impact Assessment ("EIA") and a Social Impact Assessment ("SIA") regarding all planned exploitation activities and submit reports on these to the MLSA.

602. The EIA and SIA and the reports thereon are subject to the approval of the Government of Greenland and any terms set for such approval in accordance with the Mineral Resources Act, the Licence, MLSA guidelines and any other applicable rule, regulation, decision and guidelines of the Government of Greenland (as applicable from time to time).

## § 7. Impact Benefit Agreement

*Sub period 4*

701. No later than 31 December 2020 the Licensee shall negotiate, conclude and perform an Impact Benefit Agreement ("IBA").

702. The IBA shall be negotiated and concluded with the Government of Greenland and the relevant Municipality ("Municipality").

703. The IBA shall be negotiated, concluded and performed on the basis of and in accordance with the Mineral Resources Act, the Licence, the MLSA's Guidelines for Social Impact

Assessments for mining projects in Greenland and any other applicable rule, regulation, decision and guideline of the Government of Greenland (as applicable from time to time).

## § 8. Exploitation and Closure plan

801. Pursuant to section 7 of the Licence, the Licensee shall work with the MLSA to set a timeline for the licence activities, including the timeline for the Licensee's submission of an exploitation plan and a closure plan and a timeline for the MLSA's case processing thereof.

## § 9. Provision and pledging of funds in escrow account as security for the Licensee's fulfilment of abandonment obligations etc.

901. On behalf of the Holder of the Licencc, Grønlandsbanken has set up an escrow account ("Security Account"), account number 6471 1019020, with the holder of the Licence as account holder and the Government of Greenland (by the Ministry of Mineral Resources), as beneficiary. The funds in the Security Account have been provided in favour of the Government of Greenland (by the Ministry of Mineral Resources) as security for expenses as stipulated in the Deposit Announcement (in Danish: "Deponeringsmeddelelse") of 1 September 2009. The Licensee undertakes to take on all of the Holder of the Licence's obligations in relation to the Security Account.

902. The Licensee shall bear all costs related to the Security Account, including any administration costs or fees that Grønlandsbanken may impose in connection with the Security Account. Such costs may not be deducted from the Security Account deposit.

903. At the time of signing of this addendum, the Government of Greenland is in the process of drafting new standard terms for pledge and escrow agreements for licences under the

Mineral Resources Act. At the Government of Greenland's request, the Licensee shall enter into such a Pledge and Escrow Agreement under the new standard terms, which shall replace the current terms of the Security Account.

904. The closure plan must be kept updated in relation to any development or change in exploration or exploitation activities and in society. When any development or changed circumstance so require, the MLSA may decide that the closure plan and the security provided for its implementation shall be changed, see section 43(4) of the Mineral Resources Act. The Licensee shall then change the closure plan and provide the changed security accordingly and submit the changed closure plan to the MLSA for its approval. The changed closure plan and the Licensee's provision of the changed security are subject to the approval of the MLSA and any terms set for such approval.

## § 10. Licensee's payment of costs and expenses in connection with case processing, supervision and other administrative work of public authorities

1001. The Licensee shall pay all costs and expenses relating to case processing, supervision and other administrative work and administration in connection with the Licence and activities under the Licence, including cost and expenses for necessary translation and interpretation, see section 86(5) of the Mineral Resources Act.

1002. The costs and expenses which shall be paid by the Licensee under section 901 shall be calculated and administered on the basis of any rules made and terms set from time to time by the Government of Greenland or the MLSA, see section 86(5) of the Mineral Resources Act. The payment may be collected as a fee or reimbursement of costs and expenses according to any rules made and terms set from time to time by the Government of Greenland or the MLSA. Any such rules include the Government of Greenland's executive order no. 24 of 30 December 2003 on the reimbursement of costs.

## § 11. Transfer of Licence

1101. In accordance with section 88(1) of the Mineral Resources Act the Government of Greenland approves the transfer of 2003/05 from:

Angel Mining (Gold) A/S
c/o Nuna Advokater A/S
Qullilerfik 2, 6
3900 Nuuk
Greenland

to:

Nalunaq A/S
c/o Nuna Advokater A/S
Qullilerfik 2,6
3900 Nuuk
Greenland

## § 12. Terms of Licence, coming into force and date of effect of this addendum

1201. This addendum is a part of the Licence.

1202. Subject to the terms of this addendum, the terms of the Licence also apply to this addendum, including but not limited to the terms of the Licence on the Licensee's obligations in the event that the Licence is surrendered or terminated for whatever reason in accordance with section 23 of the Licence.

1203. This addendum shall come into force on the date it is signed by the Government of Greenland. However, activities relating to Sub period 1, section 301-303, which are carried out by the Licensee before the date of signing of this addendum are also covered by this addendum.

1204. This addendum has been drawn up in the English language. Any translation hereof shall have no validity.

For and on behalf of
Nalunaq A/S

Name: ELDUR OLAFSSON
Nationality: ICELANDIC
Passport number: A2282176
Title: Director
Place of signing: Toronto
Date of signing: 07.03.2016

For and on behalf of
Naalakkersuisut

Randi Vestergaard Evaldsen
Minister for Mineral Resources

Place of signing: Toronto
Date of signing: 7/3-16

Name: JOAN PLATT
Nationality: BRITISH
Passport number: 308901903
Title: HEAD OF COMPLIANCE
Place of signing: TORONTO
Date of signing: 7/3/2016

**ADDENDUM NO. 3 TO EXCLUSIVE LICENCE NO. 2003/05 FOR EXPLOITATION OF CERTAIN MINERALS IN A LAND AREA AT NAPASORSUAQ BY NANORTALIK IN SOUTH GREENLAND**

Under sections 16 and 29 of the Greenland Parliament Act No. 7 of 7 December 2009, on Mineral Resources and Mineral Resource Activities, as amended by the Greenland Parliament Act No. 26 of 18 December 2012, the Greenland Parliament Act No. 6 of 8 June 2014 and the Greenland Parliament Act No. 16 of 3 June 2015 ("Mineral Resources Act"), the Government of Greenland hereby grants this addendum no. 3 to Exclusive Licence no. 2003/05 for Exploitation of certain Minerals in a Land Area at Napasorsuaq by Nanortalik in South Greenland ("Licence").

**§ 1. Additional exploration obligations**

Article 3 of Addendum no. 2 shall be deleted in its entirety and replaced by the following:

*Sub period 1*

101. In sub period 1, see section 202.a, the Licensee budgets to spend estimated exploration expenses of USD 240,000 (two hundred forty thousand) for exploration activities, including the following exploration activities:

a. Inspection and basic remediation of mine access roads and reopening of selected mine portals to gain underground access, safety inspection of underground conditions including tailings storage areas, inspection of underground processing plan, surface geological mapping and sampling and underground mapping and sampling.

102. No later than 31 March 2016, the Licensee shall document to the Mineral Licence and Safety Authority ("MLSA") that the Licensee has completed the exploration activities stated in section 101.a. The Licensee shall also prepare and submit a report to the MLSA no later than 31 March 2016 on the exploration activities performed in sub period 1 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection

therewith, and no later than 31 March 2016, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 2, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 2, the Licensee shall undertake to perform the exploration activities for sub period 2, see section 104. Furthermore, the Licensee shall document to the MLSA that the Licensee has the funds and financing necessary to spend such exploration expenses and complete such exploration activities as stated in 104 and 104.a. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 March 2016, the Licensee is not obliged to perform the exploration activities stated for sub period 2, sub period 3, sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 2 no later than 31 March 2016, the Licence shall lapse and be terminated without further notice.

103. The documentation required under section 102 is subject to the approval of the MLSA. The MLSA may set terms for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 30 April 2016.

*Sub period 2*

104. In sub period 2, see section 202.b, the Licensee budgets to spend estimated exploration expenses of USD 1,750,000 (one million seven hundred and fifty thousand) for exploration activities, including the following exploration activities:

a. Install infrastructure to ensure mine access roads and reopening of selected mine portals to gain future underground access, assay of mineralised samples, geological mapping and prospecting and related exploration activities.

105. No later than 31 December 2016, the Licensee shall document to the MLSA that the Licensee has completed the exploration activities stated in section 104.a. The Licensee shall also prepare and submit a report to the MLSA on the exploration activities performed in sub period 2 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection therewith, and no later than 31 December 2016, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 3, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 3, the Licensee shall undertake to perform the exploration activities for sub period 3, see section 107. Furthermore, the Licensee shall document to the MLSA that the Licensee has the funds and financing necessary to spend such exploration expenses and complete such exploration activities as stated in 107 and 107.a. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 December 2016, the Licensee is not obliged to perform the exploration activities stated for sub period 3, sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 3 no later than 31 December 2016, the Licence shall lapse and be terminated without further notice.

106. The documentation required under section 105 is subject to the approval of the MLSA. The MLSA may set terms for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal treatment. The Licensee shall have obtained the said approval from the MLSA no later than 31 January 2017.

*Sub period 3*

107. In sub period 3, see section 202.c, the Licensee budgets to spend estimated exploration expenses of USD 9,600,000 (nine million six hundred thousand) for exploration activities, including the following exploration activities:

a. Resource delineation drilling, further exploration drilling, geological and geophysical ground surveys. Processing plant recommissioning, resources modelling and estimation activities and other related exploration activities.

108. No later than 31 December 2018, the Licensee shall document to the MLSA that the Licensee has completed the exploration activities stated in section 107.a. The Licensee shall also prepare and submit a report to the MLSA on the exploration activities performed in sub period 3 and the data and samples obtained and analyses and studies made in relation thereto and provide copies of the said data, samples, analyses and studies to the MLSA. In connection therewith, and no later than 31 December 2018, the Licensee shall either submit an application to the MLSA in which the Licensee applies to continue into sub period 4, or shall surrender the Licence to the Government of Greenland. If the Licensee submits an application to continue into sub period 4, the Licensee shall undertake to perform the activities for sub period 4, see sections 501-502, 601-602, 701-703 and 801. If the Licensee surrenders the Licence to the Government of Greenland no later than 31 December 2018, the Licensee is not obliged to perform the activities stated for sub period 4 and sub period 5.

If the Licensee does not submit an application to continue into sub period 4 no later than 31 December 2018, the Licence shall lapse and be terminated without further notice.

109. The documentation required under section 108 is subject to the approval of the MLSA and any terms set for such approval. When determining terms for such approval, the MLSA shall act reasonably and in accordance with general rules and principles of Greenlandic administrative law, including the principles of objectiveness, proportionality and equal

treatment. The Licensee shall have obtained the said approval from the MLSA no later than 31 January 2019.

## § 2. Terms of Licence, coming into force and date of effect of this addendum

201. This addendum is a part of the Licence.

202. Subject to the terms of this addendum, the terms of the Licence also apply to this addendum, including but not limited to the terms of the Licence on the Licensee's obligations in the event that the Licence is surrendered or terminated for whatever reason in accordance with section 23 of the Licence.

203. This addendum shall come into force on the date it is signed by the Government of Greenland. However, activities relating to Sub period 1, section 301-303, which are carried out by the Licensee before the date of signing of this addendum are also covered by this addendum.

204. This addendum has been drawn up in the English language. Any translation hereof shall have no validity.

For and on behalf of
Nalunaq A/S

Name: JOAN PLANT
Nationality: BRITISH
Passport number: 308901903
Title: CHIEF COMPLIANCE OFFICER
Place of signing: MORTON UK
Date of signing: 16/5/2016

For and on behalf of
Naalakkersuisut

Randi Vestergaard Evaldsen
Minister for Mineral Resources

Place of signing: NUUK
Date of signing: 27-06-2016

Name: JUSTINAS MATUSEVIČIUS
Nationality: LITHUANIAN
Passport number: 22004169
Title: DIRECTOR
Place of signing: VILNIUS, LITHUANIA
Date of signing: 16/05/2016

APPENDIX 6

Aatsitassanut Ikummatissanullu Aqutsisoqarfik
Råstofstyrelsen
Mineral Licence and Safety Authority

NAALAKKERSUISUT
GOVERNMENT OF GREENLAND

Nuna Advokater
Att: Anita Strauss Sørensen
Qullilerfik 2, 6.
Postboks 59
3900 Nuuk

24-01-2017

P. O. Box 930
3900 Nuuk
Tlf. (+299) 34 68 00
E-mail: mlsa@nanoq.gl
www.govmin.gl

**Re.: Nalunaq A/S – Exploitation Licence no. 2003/05**

The MLSA has received your letter dated 19th December 2016 in which you request information regarding the above licence. The reply has been listed corresponding to the questions in your letter.

If you need any additional information please do not hesitate to contact the MLSA.

The MLSA can confirm that:

a) the licence is valid;

b) that Nalunaq A/S is the sole owner of the licence;

c) the licence period for exploitation licence no. 2003/05 expires on 24th April 2033;

d) the activities under the licence are aimed at exploitation of gold;

e) the MLSA has registered an Escrow account in relation to environmental monitoring of previous activities under the licence. No other deposit or security has been required to be paid to the MLSA under the licence;

f) all payments due to this date under the licence have been paid;

g) the MLSA has up to this date not requested the licensee to remedy any non-performance of obligations under the licence;

h) required plans according to the licence and the Mineral Resources Act are submitted for approval on a continuous basis. There are currently no outstanding plans which should have been approved at this date;

i) reporting related to activities carried out in 2016 is currently being reviewed. The MLSA is not aware at this point of any substantial outstanding issues related to this reporting. Previous reporting for the licence has been approved;

j) neither the Government of Greenland nor the MLSA has received any request for approval of any transfer of ownership or pledge of the licence.

Inussiarnersumik inuulluaqqusillunga
Kind regards

May Holstein Hansen
Toqq/tel 346803
mayh@nanoq.gl

# NALUNAQ PROJECT SCHEDULE

## PART 1

**THIS PROJECT SCHEDULE IS DATED 17 July 2015 AND MADE BETWEEN:**

(1) **FBC MINING (HOLDINGS) LIMITED** incorporated and registered in England and Wales with company number 09090121 whose registered office is at 2-4 Cork Street, 1st Floor, London W1S 3LB (**FBC Mining**);

(2) **FBC MINING (NALUNAQ) LIMITED** incorporated and registered in England and Wales with company number 09646590 whose registered office is at 2-4 Cork Street, 1st Floor, London W1S 3LB (**FBC Mining (Nalunaq)**); and

(3) **ARCTIC RESOURCES CAPITAL S.À R.L.** incorporated and registered in Luxembourg with company number B178.745 whose registered office is at 40 Avenue Monterey, L-2163 Luxembourg (**ARC**).

## PART 2

## BACKGROUND

(A) FBC Mining and ARC have entered into a collaboration agreement dated on or around the date of this Project Schedule (**agreement**), allowing the parties to collaborate on projects where such projects fall within the Focus (as defined in the agreement).

(B) In connection with the agreement, the parties have agreed to collaborate in relation to the mining opportunity at Nalunaq, Greenland, in accordance with the terms of the Licence and in accordance with this Project Schedule (the **Nalunaq Project**).

## PART 3

## PROJECT PROVISIONS

The parties agree that:

## 1 Definitions and Interpretation

1.1 The definitions and rules of interpretation in this clause apply in this Project Schedule.

**2015 Addendum** means the addendum to the Licence in respect of the 2015 Activity Programme approved by the MLSA;

**AMGAS** means Angel Mining (Gold) A/S;

**Charges** has the meaning given to that term in the agreement;

**Deferred Consideration** means US$1,999,999;

**Equity Contributions** has the meaning given to it in clause 6(d) of this Project Schedule;

**Initial Purchase Price** means US$1.00;

**Licence** means the Nalunaq gold mine exploitation licence No. 2003/05;

**LNS Contractor Work Agreement** means the contractor work agreement between FBC Mining (BA) Limited and LNS Greenland A/S dated 23 July 2014;

**MLSA** means The Mineral Licence and Safety Authority;

**MLSA Consent** means the approval by MLSA of (i) the collaboration between FBC Mining, FBC Mining (Nalunaq) and ARC, (ii) the Nalunaq Project and (iii) the transfer of the Licence to NewGreenlandCo;

**NewGreenlandCo** means a Greenlandic company incorporated for the purpose of delivering the Nalunaq Project;

**Processing Plant** means the processing plant located at the Nalunaq gold mine;

**Shareholders Agreement** means the shareholders agreement between FBC Mining (Nalunaq) and ARC in respect of the shares in NewGreenlandCo; and

**Transfer Date** means the date on which the Licence has been transferred by AMGAS to NewGreenlandCo with the consent of the MLSA.



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1.2 Terms not defined in this Project Schedule shall have the meaning given to such term in the agreement.

2 **Structure**

2.1 This Project Schedule forms part of the agreement.

2.2 The terms and conditions of the agreement apply to this Project Schedule. Each party agrees that it shall perform its obligations set out in this Project Schedule in accordance with the agreement.

2.3 Unless otherwise defined in this Project Schedule, terms used in this Project Schedule shall have the meaning given to them in the agreement.

3 **Description of Project**

3.1 The parties agree that in 2015 the Nalunaq Project shall consist of the following activity programme (the **2015 Activity Programme**):

(a) compilation of an up-to-date exploration database for the Nalunaq Project;

(b) compilation of an up-to-date three dimensional mine model;

(c) review of new ideas of mineralising processes at Nalunaq and how these can be incorporated into future exploration;

(d) using exploration data and the new mine model to plan and budget surface exploration drilling, underground development and underground drilling commencing in 2016;

(e) field activities including:

(ii) inspection and initial remediation of access to the mine site and other associated infrastructure;

(iii) reopening access portals to underground areas;

(iv) inspection of underground conditions by qualified mining engineers including rock stability and potential flooded areas;



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(v) inspection of underground mineral processing facilities in order to estimate rehabilitation requirements (assuming viable access);

(vi) inspection of underground tailings storage and integrity thereof (assuming viable access);

(vii) review of current environmental monitoring locations and methods, and adoption of new environmental monitoring as required;

(viii) geological mapping and sampling on the Mountain Block and Nalunaq Northwest areas in order to confirm mineralisation continuity;

(ix) geological mapping and sampling in the area south of the mine to investigate geochemical anomalies in this area; and

(f) meeting with local government authorities to explain the new activity at Nalunaq and the future plans for the mine, should it reopen.

**3.2** The parties acknowledge that the Transfer Date is not anticipated to occur until the 2015 Activity Programme is substantially complete. FBC Mining and FBC Mining (Nalunaq) will procure that AMGAS issues written consent to MLSA for ARC to carry out or procure the carrying out of the 2015 Activity Programme under the Licence. ARC agrees to carry out or procure the carrying out of the 2015 Activity Programme with the care and skill it would apply as if the Transfer Date had occurred and the Equity Contributions had been made notwithstanding that it may be acting as a contractor and not as principal.

## 4 Term

The Nalunaq Project shall commence on the date of execution of this Project Schedule by the parties and, unless terminated earlier in accordance with the agreement or extended by agreement between the parties in writing, shall continue until 30 September 2016 (**Project Period**).

## 5 Conditions for the purposes of clause 8 (Termination)

Conditions for the purpose of clause 8 (Termination) are as follows:

(a) any relevant government and/or regulatory authorisations or consents being obtained including MLSA Consent;

(b) all existing debts concerning the Licence being resolved prior to transfer of the Licence to NewGreenlandCo;

(c) transfer of the Licence free of any encumbrances (except any existing as a matter of Greenlandic law) to NewGreenlandCo in accordance with the terms of this Project Schedule;

(d) incorporation of NewGreenlandCo;

(e) entry into by the parties of the Shareholders Agreement;

(f) if required, entry into by the parties of a contractor work agreement substantially in the same form as the LNS Contractor Work Agreement;

(g) the parties making the Equity Contributions; and

(h) there being no unforeseen reasons preventing exploration or underground development from proceeding on the Transfer Date.

## 6 Contributions

The parties shall each provide the following Contributions in relation to the Nalunaq Project, in accordance with the specified timeframes (if any):

(a) in consideration of ARC's undertakings set out in paragraph (b) below, FBC Mining (Nalunaq) shall transfer, or procure the transfer of, the following assets to NewGreenlandCo as soon as reasonably practicable after the date of this Project Schedule:

(ii) the Licence, free and clear of any encumbrances and liabilities following MLSA Consent and subject to the terms of the 2015 Addendum;

(iii) all the assets in the area of the Licence, free and clear of any encumbrances and liabilities, currently owned by AMGAS or other related companies of AMGAS, which have not been removed under the Nalunaq gold mine closure plan;



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(iv) all mineral exploration and mining-related data, maps and reports pertaining to the Licence area and its closure, currently owned by AMGAS or other related companies of AMGAS;

(v) the remaining capital within the environmental bond put down by AMGAS; and

(vi) the Processing Plant (to the extent not included in paragraph (ii) above).

(b) ARC shall:

(i) undertake, or procure to be undertaken, the 2015 Activity Programme at its own cost; and

(ii) have adequate insurance in place in respect of the Nalunaq Project and shall maintain such insurance in force during the term of the Nalunaq Project and producing both the insurance certificate giving details of cover and the receipt for the current year's premium.

(c) The parties shall procure that NewGreenlandCo:

(i) purchases the Processing Plant as soon as reasonably practicable after the date of this Project Schedule from FBC Mining (Nalunaq) for the Initial Purchase Price and the Deferred Consideration each of which shall be payable by NewGreenlandCo in accordance with clauses 7.2 and 7.3 below; and

(ii) pays an annual royalty to FBC Mining (Nalunaq) of 1% of NewGreenlandCo's net revenue (total revenue minus production costs) less transportation and refining costs, provided that in respect to the last calendar year the operating profit per ounce of gold exceeded US$500. The cumulative royalty payments over the life of the mine are capped at a maximum of US$1,000,000.

(d) The parties shall make equity contributions (the **Equity Contributions**) as follows within 5 Business Days of the Transfer Date:



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(i) ARC shall subscribe for 2/3 (two thirds) of the issued share capital in NewGreenlandCo; and

(ii) FBC Mining (Nalunaq) shall subscribe for 1/3 (one third) of the shares in NewGreenlandCo.

**7 Funding Arrangements**

**7.1** Any funding of NewGreenlandCo beyond that contemplated by the terms of this Project Schedule shall be agreed between the parties and shall be as set forth in the Shareholders Agreement.

**7.2** The Initial Purchase Price shall be due and payable to FBC Mining (Nalunaq) immediately upon purchase of the Processing Plant by NewGreenlandCo.

**7.3** The Deferred Consideration shall be payable to FBC Mining (Nalunaq) on a pay as you can basis and no dividend shall be paid by NewGreenlandCo until (i) the Deferred Consideration has been paid in full (subject to any reductions according to the below) or (ii) the time of which it becomes apparent that the Processing Plant will not be used. The Deferred Consideration shall only be payable if the Processing Plant is used at the Nalunaq gold mine. The Deferred Consideration shall be reduced to the extent that the Processing Plant (i) is not used, (ii) requires repairs, (iii) is not at the date of purchase in good working order or condition and/or (iv) will not be capable of doing the work for which it was designed. In the event that there is disagreement between the parties as to the amount of the Deferred Consideration, the provisions of clause 9 (Expert Determination) below shall apply.

**7.4** ARC shall make payments to FBC Mining (Nalunaq), or a company within the FBC Mining group if so requested by FBC Mining (Nalunaq), for the use of equipment owned by FBC Mining (Nalunaq) or a company within the FBC Mining group located at Black Angel in the Nalunaq Project if such equipment is so used. Such payments shall be Charges and shall be on arms' length terms to be agreed between the parties in writing.

**8 Termination**

**8.1** If the conditions set forth in clause 5 have not been satisfied on or before 30 September 2015 or any of the following is untrue in a material respect in accordance with the specified timeframes (if any) then ARC may terminate this Project Schedule by notice in writing to FBC Mining (Nalunaq) with immediate effect:

(e) AMGAS has complied with all material legislation relating to the Licence until the date of which the Licence has been transferred to NewGreenlandCo;

(f) there are no encumbrances over the Licence at the date hereof and there shall be no encumbrances or liabilities over the Licence at the date of which the Licence has been transferred to NewGreenlandCo, except any existing as a matter of Greenlandic law;

(g) the MLSA has waived any breach of any financial obligations in respect of the Licence prior to the transfer of the Licence to NewGreenlandCo; and

(h) following transfer of the Licence to NewGreenlandCo, NewGreenlandCo will be the sole licensee under the Licence.

**8.2** If this Project Schedule is terminated by ARC under this clause, unless the parties agree otherwise:

(a) FBC Mining or FBC Mining (Nalunaq) shall promptly pay ARC, or a company within the ARC group if so requested by ARC, the costs of undertaking the 2015 Activity Programme up to a limit of US$100,000 if and to the extent that such costs have been incurred and are unpaid and any such payments shall be Charges; and

(b) if shares have been issued or transferred to ARC in accordance with clause 6(d) then ARC shall promptly transfer or re-transfer (as the case may be) its shares in NewGreenlandCo to FBC Mining (Nalunaq).

## 9 Expert Determination

**9.1** An **Expert** is a person appointed in accordance with this clause to resolve the amount of the Deferred Consideration.

**9.2** The parties shall agree on the appointment of an independent Expert and shall agree with the Expert the terms of his appointment.



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9.3 If the parties are unable to agree on an Expert or the terms of his appointment within seven days of either party serving details of a suggested expert on the other, either party shall then be entitled to request the Institute of Mechanical Engineers to appoint an Expert mechanical engineer of repute with international experience in resolving matters of this nature and for the Institute of Mechanical Engineers to agree with the Expert the terms of his appointment.

9.4 The Expert is required to prepare a written decision and give notice (including a copy) of the decision to the parties within a maximum of three months of the matter being referred to the Expert.

9.5 If the Expert dies or becomes unwilling or incapable of acting, or does not deliver the decision within the time required by this clause then:

(i) either party may apply to the Institute of Mechanical Engineers to discharge the Expert and to appoint a replacement Expert with the required expertise; and

(j) this clause shall apply to the new Expert as if he were the first Expert appointed.

9.6 All matters under this clause must be conducted, and the Expert's decision shall be written, in the English language.

9.7 The parties are entitled to make submissions to the Expert including oral submissions and will provide (or procure that others provide) the Expert with such assistance and documents as the Expert reasonably requires for the purpose of reaching a decision.

9.8 To the extent not provided for by this clause, the Expert may in his reasonable discretion determine such other procedures to assist with the conduct of the determination as he considers just or appropriate including (to the extent he considers necessary) instructing professional advisers to assist him in reaching his determination.

9.9 Each party shall with reasonable promptness supply each other with all information and give each other access to all documentation and personnel and/or things as the other party may reasonably require to make a submission under this clause.

9.10 The Expert shall act as an expert and not as an arbitrator. The Expert shall determine the Deferred Consideration which may include any issue involving the interpretation of any



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provision of this Agreement, his jurisdiction to determine the matters and issues referred to him and/or his terms of reference. The Expert's written decision on the matters referred to him shall be final and binding on the parties in the absence of manifest error or fraud.

9.11 Each party shall bear its own costs in relation to the reference to the Expert. The Expert's fees and any costs properly incurred by him in arriving at his determination (including any fees and costs of any advisers appointed by the Expert) shall be borne by the parties equally.

9.12 All matters concerning the process and result of the determination by the Expert shall be kept confidential among the parties and the Expert.

9.13 Each party shall act reasonably and co-operate to give effect to the provisions of this clause and otherwise do nothing to hinder or prevent the Expert from reaching his determination.

## 10 Additional terms

10.1 The board of directors of NewGreenlandCo shall be composed of three directors, two of whom will be nominated by ARC and one of whom will be nominated by FBC Mining (Nalunaq). Any resolution by the board of directors of NewGreenlandCo shall be passed by a simple majority of votes and in accordance with the terms of the Shareholders Agreement.

10.2 The parties shall use all reasonable endeavours to procure that the status of the Licence shall remain as "Exploitation" and shall not be changed to "Exploration".

**PART 4**

**PROJECT SCHEDULE SIGNATURES**

Signed by
for and on behalf of **FBC MINING (HOLDINGS) LIMITED** ........................................
Director

Signed by ........................................
for and on behalf of **FBC MINING (NALUNAQ) LIMITED** Director

Signed by
for and on behalf of **ARCTIC RESOURCES CAPITAL S.À R.L** ........................................
Manager

Lucinda CLIFTON-BRYANT

........................................
Manager

## PART 4

## PROJECT SCHEDULE SIGNATURES

Signed by
for and on behalf of **FBC MINING (HOLDINGS) LIMITED** ..................................... Director

Signed by
for and on behalf of **FBC MINING (NALUNAQ) LIMITED** ..................................... Director

Signed by
for and on behalf of **ARCTIC RESOURCES CAPITAL S.À R.L** ..................................... Manager

..................................... Manager

# SALE AND PURCHASE AGREEMENT

made and entered into on 15 October 2015

by and between

**(1) Angel Mining (Gold) A/S**

(company number A/S459842)

Qullilerfik 2, 6.

3900 Nuuk

Greenland

Greenland

(hereinafter **AMGAS** or the **Vendor**)

and

**(2) Nalunaq A/S**

(company number A/S 600380)

Qullilerfik 26.

3900 Nuuk

Greenland

(hereinafter **NAS** or the **Purchaser**)

(AMGAS and NAS hereinafter collectively the **Parties**)

## 1 SALE AND PURCHASE

1.1 The Vendor hereby sells and the Purchaser hereby purchases all such right, title and interest as the Vendor may have in the following assets (the **Assets**) free and clear of any encumbrances and liabilities other than expressly stated:

(a) the right to carry out exploitation activities and such other activities or rights as may be permitted under the Nalunaq gold mine exploitation licence no. 2003/05 (the **Licence**) including the contingent liabilities attached to the Licence (environmental monitoring);

(b) any and all knowledge gained by the Vendor in connection with the activities under the Licence including all relevant studies, reports, documents as well as plant, machinery, tools and equipment used by the Vendor in performing its work under the Licence;

(c) all the assets in the area of the Licence currently owned by the Vendor which have not been removed under the Nalunaq gold mine closure plan;

(d) all mineral exploration and mining-related data, maps and reports pertaining to the Licence area and its closure owned by Vendor; and

(e) the amounts standing to the credit of the escrow account number 6471 1019020 as security to Government of Greenland, Mineral Licence and Safety Authority for the contingent liabilities attached to the Licence (environmental monitoring).

1.2 In connection with the transfer of the Assets, the Vendor hereby assigns (to the extent legally permitted) and the Purchaser hereby acquires and assumes (to the extent legally permitted) such right, title and interest as the Vendor may have in all rights attached to or otherwise associated with the Assets.

1.3 To the extent legally permitted the Purchaser assumes none of the Vendor's liabilities or obligations attached to or otherwise associated with the Assets other than those expressly stated.

## 2 TRANSFER DATE

The transfer date shall be the date of satisfaction of the conditions precedent, cf. clause 4(a) – 4(b) (the **Transfer Date**).

## 3 PURCHASE PRICE AND PAYMENT

3.1 The purchase price for the Assets is DKK 250,000 (the **Purchase Price**).

3.2 The Purchaser shall pay, or shall procure that its shareholder FBC Mining (Nalunaq) Limited pays, the Purchase Price in cash on the Transfer Date by payment into such bank account details of which shall be notified in writing to the Purchaser by the Seller.

## 4 CONDITIONS PRECEDENT

This agreement shall become effective upon the satisfaction of the following conditions precedent:

(a) requisite regulatory approval of the transfer of the Licence from the Government of Greenland, Mineral Licence and Safety Authority; and

(b) approval of the transfer of the Licence from the trustee of the Vendor's bankruptcy estate (in Danish: *kurator*).

## 5 REPRESENTATIONS AND WARRANTIES

5.1 The Vendor represents and warrants to the Purchaser that as of the Transfer Date (i) it is the sole legal holder of the Assets and in every way entitled to dispose of the Assets in favour of the Purchaser as set out in this agreement and (ii) that the Licence is in good standing.

5.2 The Vendor represents and warrants to the Purchaser that it has obtained all necessary board and creditor approvals in respect of the transfer of the Assets on the terms set out in this agreement.

## 6 INDEMNITY; EXCLUSION OF LIABILITY

6.1 The Parties acknowledge that it is intended that the Vendor will enter an insolvency and/or bankruptcy process in Greenland. The Purchaser agrees to indemnify the directors of the Vendor and any receiver of the Vendor's bankruptcy estate within 5 business days of demand in writing in respect of (i) any costs reasonably and properly incurred in connection with the transfer of the Assets in accordance with the terms of this Deed and (ii) any claims against the Vendor arising as a result of any activities carried out by the Purchaser or other third parties pursuant to the Licence.

6.2 The Purchaser acknowledge and accepts that neither the trustee, the Vendor's bankruptcy estate nor the bankruptcy court (in Danish: *Skifteretten*) assumes any liability nor shall they incur any liability whatsoever as a result of the trustee's approval of this agreement and the Purchaser hereby waives any and all claims and remedies in that respect.

## 7 NO ASSIGNMENT

Neither Party is entitled to assign all or any part of its rights and obligations under this agreement.

## 8 COSTS AND EXPENSES

The Purchaser shall pay, or shall procure that its shareholder FBC Mining (Nalunaq) Limited pays, the amount of all costs and expenses (including legal fees) reasonably and properly incurred in connection with the preparation, negotiation and execution of this agreement.

## 9 GOVERNING LAW AND JURISDICTION

9.1 This agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation shall be governed by and construed in accordance with Greenlandic law, and the courts of Greenland shall have jurisdiction to settle any dispute or claim that arises out of or in connection with this agreement or its subject matter or formation.

## 10 COPIES

This agreement is executed in two original copies, each of the Parties receiving one copy.

(*Signatures on following page*)

*(Signatures Sale and Purchase Agreement)*

Date: 15 October 2015

For and on behalf of

**Angel Mining (Gold) A/S**

as Vendor:

| | |
|---|---|
| Signature | Signature |
| L. R. BAILEY | JOAN PLANT |
| Name in block letters | Name in block letters |

Date: 15 October 2015

For and on behalf of

**Nalunaq A/S**

as Purchaser:

| | |
|---|---|
| Signature | Signature |
| ELDUR OLAFSSON | JUSTINAS MATUSEVIČIUS |
| Name in block letters | Name in block letters |