23 March 2022

ASX Announcement

ECLIPSE IDENTIFIES ANOMALOUS LITHIUM CONCENTRATIONS AT GREENLAND MULTI-COMMODITY PROJECT

Highlights

- **Grab samples from the Ivigtût and Grønnedal-Ika prospects return up to 430ppm Li_2O.**
- **Eclipse Metals' grab sampling marks the first lithium evaluation undertaken at Ivigtût.**
- **New results further highlight the polymetallic nature of the historic Ivigtût cryolite mine and adjacent Grønnedal-Ika carbonatite complex.**
- **Eclipse Metals is planning systematic sampling and drilling to better constrain Ivigtût's lithium potential.**

Eclipse Metals Ltd (ASX: EPM) (**Eclipse Metals** or the **Company**) is pleased to announce recent grab sampling at its Ivigtût (or Ivittuut) and Grønnedal-Ika prospects in southwest Greenland returned elevated lithium concentrations up to 430ppm Li_2O (Table 1).

The Company's Greenlandic multi-commodity project, previously mined for cryolite at Ivigtût, has never been explored for lithium.

Anomalous lithium concentrations at Ivigtût are known to be associated with cryolithionite, jarlite, muscovite, biotite and zinnwaldite. The Ivigtût samples reported in Table 1 represent cryolite-fluorite-siderite mine dump material with lithium most likely occurring in cryolithionite ($Li_3Na_3Al_2F_{12}$), a globally rare lithium-bearing fluoride mineral first described from Ivigtût. Further work is required to determine which mineral, or minerals, carry the anomalous lithium identified in an aplite dyke (sample G21011) cutting the Grønnedal-Ika carbonatite complex.

Eclipse Metals' new lithium assay results further highlight the polymetallic character of the historic Ivigtût cryolite mine and adjacent Grønnedal-Ika carbonatite complex, offering the potential for defining rare earth element (REE), precious and base metal and industrial mineral resources in this highly mineralised project area.

Eclipse Metals' Executive Chairman Carl Popal said, *"Our grab sampling program at Ivigtût has identified cryolithionite, a lithium-bearing fluoride mineral that was first identified at the historic Ivigtût mine in the early 1900s. While cryolithionite was known to exist at Ivigtût, previous operators had no interest in lithium and, therefore, did not assay for it. The recognition of highly anomalous lithium is an exciting step in our work and provides us with a greater understanding of the complex, multi-commodity mineralisation at Ivigtût.*

Table 1. Grab sample assay and location data.

Sample Locality	Sample Number	Easting	Northing	Li_2O (ppm)	F (%)
		WGS84 UTM Zone 22		*ME-ICP61**	*F-ELE81a, ME-XRF15b**
Ivigtût	**I21007**	652,288	6,788,962	**430.0**	**22.20**
	I21009	652,288	6,788,962	108.0	26.00
	I21012	652288	6,788,962	**323.0**	**19.90**
Grønnedal-Ika	G21010	658,919	6,791,227	21.5	0.45
	G21011	658,919	6,791,227	**430.0**	**4.40**
	G21014	658,846	6,791,343	21.5	0.89
	G21016	658,846	6,791,343	BD	0.32
	G21017	658,846	6,791,343	BD	0.24
	G21019	658,846	6,791,343	BD	0.26

*Notes: BD = below detection. *Assay techniques. Fluorine (F) percentages are rounded to two decimal places.*

Cryolithionite at Ivigtût is known to occur as crystals, up to 19cm-long, in massive cryolite and siderite-cryolite, cryolite veins, and fluorite-cryolite breccia. In addition to Ivigtût, the type locality for this fluoride mineral, cryolithionite has also been reported from the Gasberg's topaz-cryolite mine in Russia and Zapot pegmatite near Hawthorne, Nevada (Pauly, 1986).

Figure 1. Historic Ivigtût mine dump.

Lithium concentrations in 268 cryolite samples from the Ivigtût mine, as reported in an academic paper by Pauly (1986), are summarised in Table 2, show lithium concentrations ranging from 78 to 153ppm Li. Additional lithium-bearing minerals identified by Pauly at Ivigtût include jarlite (400-800ppm Li), muscovite (111-315ppm Li), biotite (5,812ppm Li) and zinnwaldite (16,710ppm Li).

The samples analysed by Pauly were collected from within the then operating Ivigtût cryolite mine, the centre point of which is at latitude 61°12'21.60"N and longitude 48°10'30.00"W. The sample locations are shown in Figure 2.

Whilst these new findings are encouraging, a more systematic sampling approach and drilling are required to better constrain the lithium potential at Ivigtût.

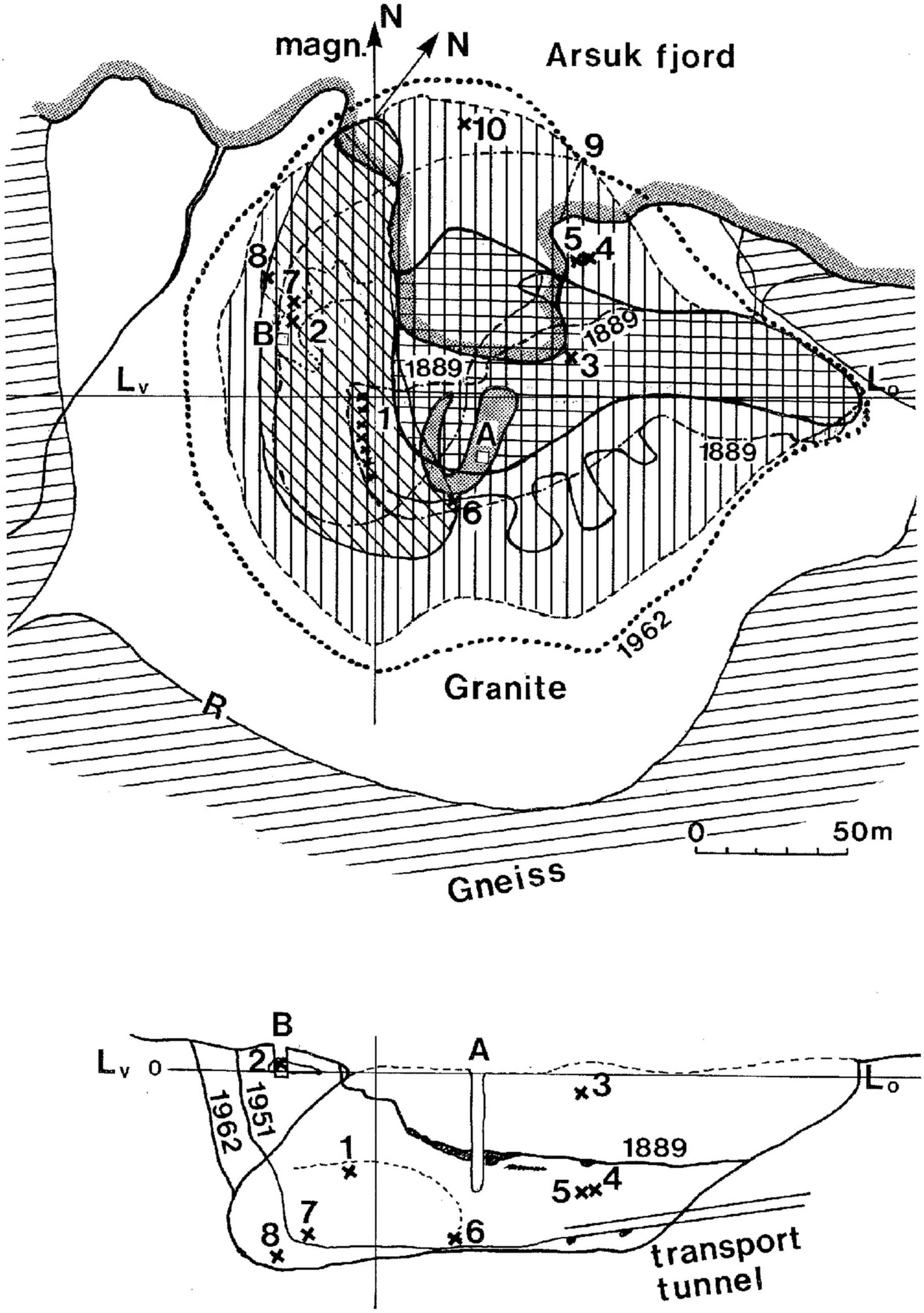

Figure 2. Map of the historic Ivigtût cryolite mine and longitudinal section, showing the cryolithionite sample locations of Pauly (1986).

Table 2. Average, minimum, and maximum content of lithium (Li), in ppm, in cryolite from five different cryolite ore types from the historic Ivigtût mine.

Cryolite Type	Number of Samples	Average Value *(ppm Li)*	Minimum *(ppm Li)*	Maximum *(ppm Li)*
Siderite-cryolite	78	83	19	224
Black cryolite	21	153	69	222
Pure white cryolite	132	87	34	190
Vein cryolite	14	78	46	101
Fluorite-cryolite breccia	23	101	38	158

Notes: Analytical technique: Atomic absorption spectrophotometry (AAS). Details provided in Pauly (1986).

References

Pauly, H. (1986). Cryolithionite and Li in the cryolite deposit Ivigtût, South Greenland. The Royal Danish Academy of Sciences and Letters, Matematisk-fysiske Meddelelser, 42(1), 24 p.

Authorised for release by the Board

Carl Popal
Executive Chairman

Oliver Kreuzer
Non-Executive Director

About Eclipse Metals Ltd (ASX: EPM)

Eclipse Metals Ltd is an Australian exploration company focused on exploring South-western Greenland, Northern Territory and Queensland for multi commodity mineralisation. Eclipse Metals Ltd has an impressive portfolio of assets prospective for cryolite, fluorite, siderite, quartz (high purity silica), REE, gold, platinum group metals, manganese, palladium, vanadium and uranium mineralisation. The Company's mission is to increase shareholders' wealth through capital growth and ultimately dividends. Eclipse Metals Ltd plans to achieve this goal by exploring for and developing viable mineral deposits to generate mining or joint venture incomes.

About the Ivigtût Project

Ivigtût is located in southwestern Greenland and has a power station and fuel supplies to service this station and local traffic to support mineral exploration. About 5.5km to the northeast of Ivigtût, the twin settlements of Kangilinnguit and Grønnedal, respectively, provide a heliport and an active wharf with infrastructure. The Grønnedal-Ika carbonatite complex is less than 10km from Ivigtût and only 5km from the port of Grønnedal. This complex is one of the 12 larger Gardar alkaline intrusions in Greenland and is recognised by GEUS as one of Greenland's prime REE targets along with Kvanefjeld and Kringlerne (Tanbreez).

The Gardar Province of southwest Greenland constitutes one of the best-endowed REE provinces worldwide. It represents an ancient continental rift zone that was active between 1,330 and 1,140 Ma (i.e., Mesoproterozoic era). Gardar magmatism produced a raft of extrusive and intrusive rocks, including kilometre-scale alkaline complexes that are among the world's largest alkaline ore deposits. The Ivigtût mineralised system, spatially and genetically associated with an evolved alkaline complex of the Gardar Province, formed 1.3 billion years ago as cooling hydrothermal fluids moved through the Earth's crust.

Competent Persons Statement

The information in this report / ASX release that relates to Exploration Results is based on information compiled and reviewed by Mr. Rodney Dale, Non-Executive Director of Eclipse Metals Ltd. Mr. Dale holds a Fellowship Diploma in Geology from RMIT, is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) and has sufficient experience relevant to the styles of mineralisation under consideration and to the activity being reported to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Dale consents to the inclusion in this report / ASX release of the matters based on information in the form and context in which it appears. Additionally, Mr Dale confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Random chips from outcrops and mullock dumps. • Samples from Ivigtût mine dumps intended to represent major rock types; qualitative only. • Grønnedal-Ika carbonatite samples represent outcropping rock formations; qualitative only. • Initial field tests by hand-held XRF assumed to be indicative only. Instrument not calibrated. • Chemical analyses to assess levels of elements contained, not for ore-grade estimates.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• No drilling was undertaken as part of the grab sampling program.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No drilling was undertaken as part of the grab sampling program.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Samples geologically logged before submission for analysis for identification only. Not quantitative.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Samples for geological determination and identification only. Not quantitative. • No duplicates collected or determined.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Standard laboratory procedures for sample preparation, elemental determination, QA / QC. • XRF instrument used only to select mineralized samples for shipment to reduce quantity and weight of samples sent from Greenland to Australia. • Standard laboratory procedures with blanks and duplicates. No external laboratory checks warranted at this stage.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No drilling was undertaken as part of the grab sampling program.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Handheld GPS locations:- Ivigtût – within 100m of 652288mE : 6788960mN Grønnedal-Ika – within 100m of 658880mE : 6791300mN. No grid. Handheld GPS only and correlation with hard-copy maps.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Grab samples were collected at random sites, determined by outcrop availability and safe access to the Ivigtût mine dumps. • No assumption of continuity or resource estimation. • Samples not composited.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Rock chips were collected at random and based on rock type, not structure. • No drilling was undertaken as part of the grab sampling program.
Sample security	• *The measures taken to ensure sample security.*	• Samples secured on-site and transported by airline to Australia under normal security procedures.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits have been completed yet.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• MEL 2007 / 45 granted to Eclipse Metals in February 2021 for a period of 3 years with extensions subject to activities and expenditure. • Granted by Government of Greenland.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	**GEUS Report File No. 20236** The Planning of the Ivigtût Open Pit of Kryolitselskabet Oresund A/S - Mining of the Flouritic Orebody"; Outokompu OY Mining Consultants, 1987. This report provided 18 cross sections showing drill traces with cryolite (kry), fluorite (fs) and siderite (sid) values together with pit profiles, resource blocks and tabulated tonnage estimates on each section with an SG of 2.95. **GEUS Report File No. 20238** "The Planning of the Ivigtût Open Pit of Kryolitselskabet Oresund A/S – Report of the First Phase, Investigation of the Quantity and Quality of Extractable Ore from the Ivigtût Open Pit"; Outokompu OY Mining Consultants, 1986. This report contained 23 sections showing drillhole traces and contoured cryolite/fluorite grades with an overlay of resource blocks. These sections were used to check positions of drillholes relative to those shown in the above report (GEUS 20236). Resource tonnages are provided. **GEUS Report File No. 20335** Kryolitselskabet Oresund A/S, De Resterende Mineralreserver I Kryolitforekomsten Ved Ivigtût, Ultimo 1987" This report is the most

Criteria	JORC Code explanation	Commentary
		useful of the reports. It provides: - Drillhole location plan - Complete cross section locations - Pit survey points - Plans of underground and in-pit ramp - 38 cross section showing drillhole traces, geological interpretation and ore blocks - Tabulated ore blocks with cryolite, fluorite and siderite grades and tonnages (back-calculated blanket SG of 3) **GEUS Report File No. 21549** "Ivigtût Mineopmaaling, 1962" This report is a survey record of the open pit and includes 28 sections, each of which show the pit profile together with drillhole traces and, on some sections, underground workings. **GEUS Report File No. 20241** Kryolitselskabet Oresund A/S, Lodighedsdistribution I, Ivigtût Kryolitbrud, 31.12.1985" (Danish) 108 pages of drillhole analytical data in %: hole ID, from to, cryolite, fluorspar, Fe, Cu, Zn, Pb, S **Pauly, H. (1986)** Cryolithionite and Li in the cryolite deposit Ivigtût, South Greenland. The Royal Danish Academy of Sciences and Letters, Matematisk-fysiske Meddelelser, 42(1), 24 p.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Late stage granitic / syenitic / carbonatite intrusions into crystalline basement.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• No drilling was undertaken as part of the grab sampling program.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation*	• No drilling was undertaken as part of the grab sampling program.

Criteria	JORC Code explanation	Commentary
	should be stated and some typical examples of such aggregations should be shown in detail. • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• No drilling was undertaken as part of the grab sampling program.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate maps are provided in the body of the text.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All assay results for the rock chip sampling have been reported in the Table 1 in the body of text.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• The exploration by Eclipse Metals of the Ivigtût and Grønnedal-Ika prospects is at an early stage with field work to date mostly limited to reconnaissance sampling. The Company expects to be able to report substantive exploration data once it has completed it's first full field season at the prospects.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Geological mapping; remote sensing; drilling. • Detailed geological assessments planned for 2022 field season.