19 May 2022

ASX Announcement

ECLIPSE APPLIES FOR DRILLING PERMIT AT GRØNNEDAL-IKA TO FOLLOW UP EXTENSIVE MAGNETIC BODIES INDICATIVE OF REE MINERALISATION

Highlights

- **Three-dimensional (3D) inversion modelling of airborne magnetic data identified several high amplitude and vertically extensive magnetic bodies at Grønnedal-Ika, where Eclipse Metals is targeting REE mineralisation associated with a carbonatite-syenite complex.**
- **Modelled magnetic bodies, up to 2,700m long and 1,000m wide, extend to >900m below surface and are spatially coincident with a cluster of electromagnetic (EM) bedrock conductors identified by a previous explorer.**
- **Reconnaissance exploration by Eclipse Metals in 2021 found a strong correlation at Grønnedal-Ika between REE mineralisation and zones of strong positive magnetic anomalism.**
- **Magnetic anomalism at Grønnedal-Ika is known to be associated with magnetite-bearing carbonatite, which was explored from 1948 to 1950 for its magnetite and niobium potential but not for REE.**
- **These findings provide Eclipse Metals with a new REE targeting model and clear targets for follow-up.**
- **Eclipse has applied to Greenland's Mineral Resources Authority to proceed with a drilling program at Grønnedal-Ika in the 2022 field season**
- **Grønnedal-Ika forms part of Eclipse Metals' SW Greenland multi-commodity project, which also includes the historic Ivittuut mine.**

Eclipse Metals Ltd (ASX: EPM) (**Eclipse Metals** or the **Company**) is pleased to present results from new 3D modelling of airborne magnetic data over the Grønnedal-Ika carbonatite-syenite complex at its Ivittuut multi-commodity project (MEL2007/45) in SW Greenland.

The Grønnedal-Ika complex is one of the larger intrusions of the Gardar Province, a suite of alkaline igneous rocks emplaced into a continental rift system in South Greenland in Mesoproterozoic times. The igneous complex at Grønnedal-Ika measures approximately 8km by 3km in exposed dimension and consists primarily of layered nepheline syenites that were intruded by a porphyritic syenite and a plug of carbonatite. The carbonatite consists of varying amounts of calcite, siderite and magnetite.

Towards the centre of the carbonatite plug, the amount of siderite increases. Large amounts of magnetite occur where later mafic dykes cut the siderite-rich part of the carbonatite. Magnetite is exclusively secondary after original siderite as a result of decarbonation and oxidation (i.e., contact metamorphism) in the vicinity of the mafic dykes (e.g., Halama et al., 2005). The Grønnedal-Ika complex is recognised by the Geological Survey of Denmark and Greenland (GEUS) as one of Greenland's prime REE targets (Paulick et al., 2015).

Eclipse Metals' Executive Chairman Carl Popal said, *"We are delighted that our geophysical modelling and data review has helped to further constrain our REE exploration targeting model, clearly highlighting the spatial and genetic relationship between areas of strong magnetic and electromagnetic anomalism and REE mineralisation. The size and depth extent of the modelled, magnetically anomalous bodies bodes well with respect to the possible scale of REE mineralisation.*

"These findings give Eclipse confidence to progress toward drilling. We have submitted an application to the MLSA (Mineral Resources Authority in Greenland) to proceed with a drilling program to be conducted in the 2022 field season."

Magnetic modelling

The Company recently contracted Fathom Geophysics Australia Pty Ltd (Fathom Geophysics) to complete 3D inversion modelling of magnetic data relating to a semi-regional (200m-line spaced), heliborne DIGHEM survey conducted in 1995, with survey parameters and data re-processing described previously (ASX announcement 09 February 2021).

This 3D unconstrained inversion of the magnetic data was undertaken to estimate the subsurface distribution of magnetite in the bedrock and gain a better understanding of the potential depth extent and geometry of the magnetic bodies (Figure 1). The modelling used the industry standard 3D UBC inversion code, a numerical algorithm developed by the University of British Columbia, which models the geophysical data into a potential rock volume that may be responsible for the observed magnetic measurements at surface. The algorithm works to minimise the difference between the observed data (i.e., the data measured by the survey) and the calculated data (i.e., the forward response of the 3D earth model) such that the model presents a valid solution based on the data collected.

In the case of the Grønnedal-Ika complex, the igneous rocks mapped at surface correlate with distinct magnetic anomalies identified in the modelling. In particular, the magnetic anomalies correlate with magnetite-bearing carbonatite, carbonatite breccia and younger olivine dolerite as mapped by previous explorers (Figure 2). The strongest magnetic anomalism, observed in the southern central Grønnedal-Ika complex, coincides with areas where grab samples of magnetite-bearing carbonatite and carbonatite breccia, collected by the Company in 2021, returned total REE (TREE) content of up to 34,468 ppm (c. 3.45% TREE) (ASX announcement 2 March 2021).

Key findings of the 3D inversion modelling included:

- Grønnedal-Ika complex comprises at least two (2) large and vertically extensive magnetic bodies that range in size from 1,200m × 600m to 2,700m × 1,000m and extend to >900m below surface.
- Peak RTP amplitude of the strongest magnetic response is 6,000 nT (nanotesla)
- The bodies have apparent pipe-like geometries.
- The northern body plunges moderately to steeply towards the south whilst the southern body is near-vertical.
- The northern and southern bodies appear to coalesce into a single body beyond 700m depth.
- Comparing the size of the magnetic response with the extend of the mapped carbonatite suggests there is a larger potential extent of magnetite-bearing carbonatite and carbonatite breccia in the subsurface than indicated by earlier mapping.

Details on the modelling approach can be found below in JORC Code (2012) – Table 1.

Review of EM data

Fathom Geophysics also completed a cursory review of the EM data acquired as part of the 1995 DIGHEM survey. This review included digitisation of probable EM bedrock conductors recorded by the survey contractor at the time of data delivery.

As illustrated in Figure 1, EM bedrock conductors cluster within the area of the strongest magnetic anomalism in the central portion of the Grønnedal-Ika complex. Two additional clusters of EM bedrock conductors are evident outside the Grønnedal-Ika complex and are recommended for field checking.

Discussion of results

Eclipse's 3D modelling of airborne magnetic data over the Grønnedal-Ika complex, one of Greenland's prime REE targets, provided new insights into the subsurface distribution of magnetic bedrock and possible architecture of this composite and structurally dismembered intrusive complex.

Modelling revealed several vertically extensive magnetic bodies in the central portion of the Grønnedal-Ika complex that are up to 1,200m-long, 600m-wide, extend to >900m below surface and have a peak anomaly amplitude of 6000 nT. These pipe-like magnetic bodies are spatially coincident with historic ground magnetic anomalies (up to 20,000 nT) (Bondam, 1992) and probable EM bedrock conductors (Figure 1) identified by a previous explorer. Reconnaissance exploration by Eclipse Metals in 2021 found a strong correlation between REE mineralisation (up to c. 3.45% TREE), contained in magnetite-rich carbonatite and carbonatite breccia and domains of most intense magnetic anomalism (ASX release 02 March 2021).

Magnetic anomalism at Grønnedal-Ika is known to be caused by magnetite-bearing carbonatite, which was explored in the mid-1900s for its magnetite iron and niobium potential but not for REE. Drilling was limited to six angled diamond bore holes for a total downhole length of 750m (Bondam, 1992). As described by Halama et al. (2005), large amounts of magnetite occur where later mafic dykes cut the siderite-rich part of the carbonatite in the centre of the Grønnedal-Ika complex. This magnetite is exclusively secondary in origin and replaced primary siderite as a result of decarbonation and oxidation (i.e., contact metamorphism) in the vicinity of a series of mafic dykes that cut the Grønnedal-Ika complex.

It is likely that these secondary processes acted to scavenge and concentrate REE into the secondary magnetite. The magnetite is also mapped in the EM data with probable bedrock EM conductors clustering in the central part of the Grønnedal-Ika complex where the Company has sampled magnetite-rich carbonatite. Importantly, comparing the size of the magnetic response with the extend of the mapped carbonatite suggests there is a larger potential extent of carbonatite than indicated by the earlier mapping.

Next steps

Latest findings provide Eclipse Metals with a new REE targeting model and clear targets for follow-up exploration.

Next steps envisaged by the Company include:

- Field reconnaissance of and grab sampling in areas of magnetic and EM anomalism.
- Detailed geological mapping and the relogging of historic drill core.
- Data integration and interpretation.
- Generation and testing of drill targets.

References

Bondam, J. (1992). The Grønnedal-Ika alkaline complex in South Greenland. Geological Survey of Greenland Report, Open File Series 92/2, 34p.

Halama, R., Vennemann, T., Siebel, W., and Markl, G. (2005). The Grønnedal-Ika carbonatite-syenite complex, South Greenland: carbonatite formation by liquid immiscibility. Journal of Petrology, 46(1), 191-217.

Paulick, H., Rosa, D., and Kalvig, P. (2015). Rare earth element projects and exploration potential in Greenland. Center for Minerals and Materials (MiMa), Geological Survey of Denmark and Greenland (GEUS), Rapport 2015/2, 51p.

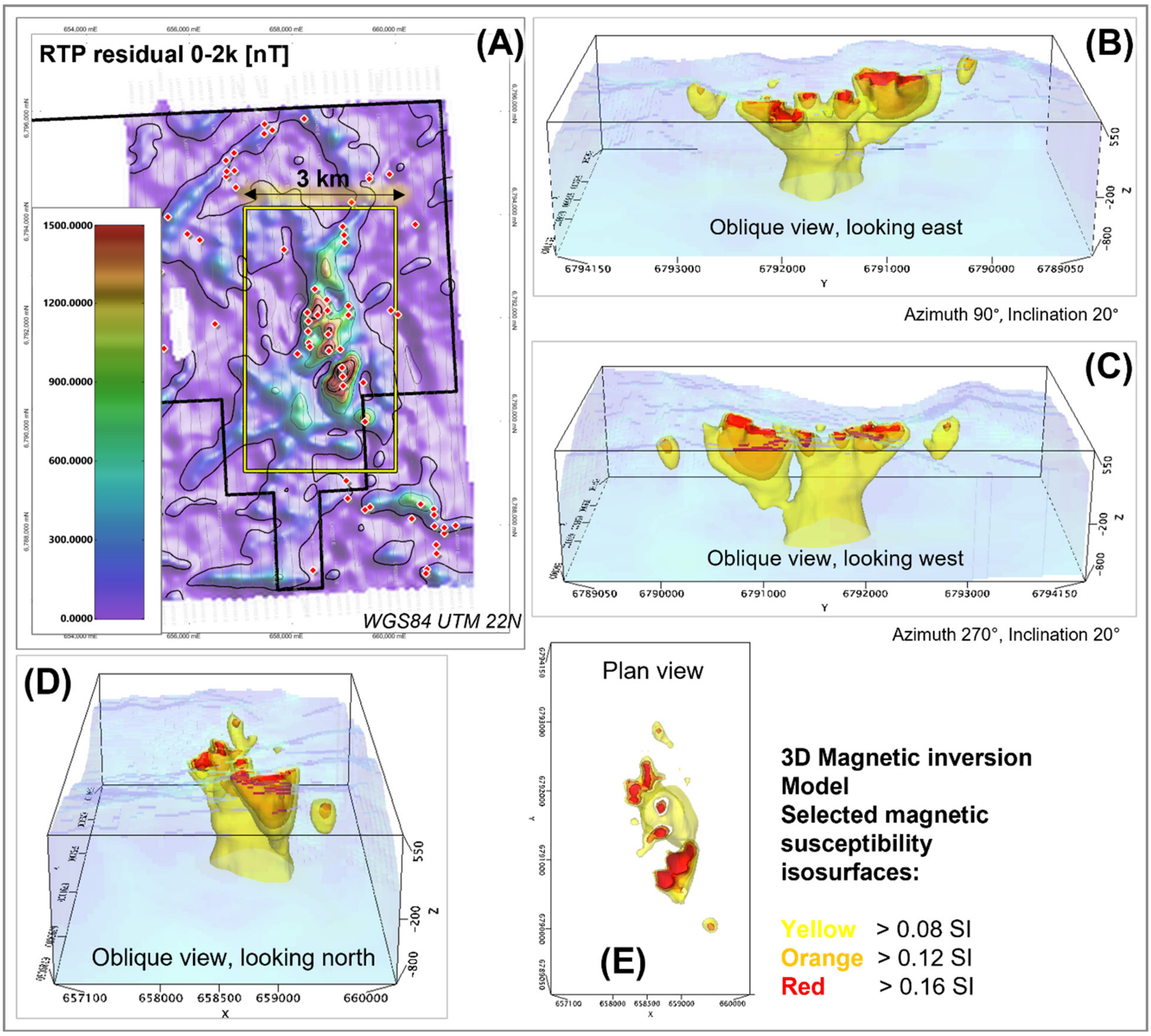

Figure 1. Results of the 3D magnetic inversion modelling and review of historic electromagnetic (EM) data. (A) Plan view of residual reduced to the pole (RTP) magnetic data. The data are imaged with a linear stretch and NE illumination. Magnetic contours are overlain (black polylines). Also shown are survey flight lines (light grey polylines) and location of probable bedrock EM conductors (red diamond-shaped symbols) as interpreted by the Geoterrex geophysicist in charge of processing the 1995 DIGHEM magnetic and EM survey data. (B) to (D) Oblique views of the 3D model showing selected magnetic susceptibility isosurfaces. (E) Plan view of the 3D model showing selected magnetic susceptibility isosurfaces.

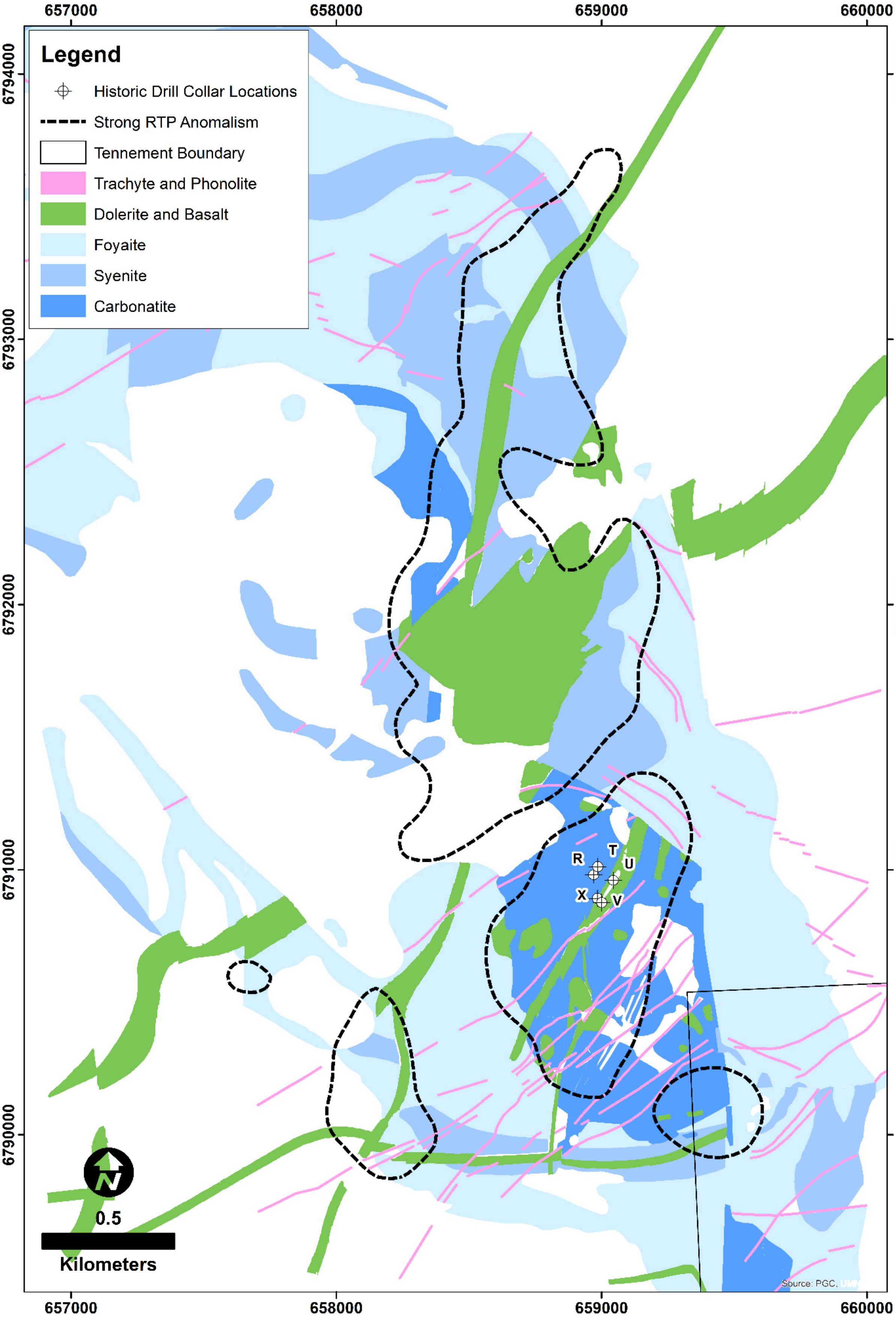

Figure 2. Simplified surface geology of part the Grønnedal-Ika syenite-carbonatite complex. Also shown are outlines of strong RTP magnetic anomalism (compare with Figure 1) and the approximate collar locations of mid-1900s diamond bore holes R, S, T, U, V and X (note: collar locations R and S are identical).

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, the 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 SW Greenland Multi-Commodity 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-syenite 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 Dr Amanda Buckingham, Consultant, and Dr Oliver Kreuzer, Non-Executive Director of Eclipse Metals Ltd. Dr Buckingham holds a PhD in Mathematics and Geophysics from the University of Western Australia, WA. She is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Buckingham 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. Dr Buckingham 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, Dr Buckingham 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. Dr Kreuzer holds a Dipl-Geol (MSc equivalent) in Geology, Palaeontology and Mineralogy from the University of Freiburg, Germany, and a PhD in Economic Geology from James Cook University, Townsville, Queensland. He is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM) and a Member and Registered Professional Geologist (RPGeo) in the field of Mineral Exploration of the Australian Institute of Geoscientists (AIG). Dr Kreuzer 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. Dr Kreuzer 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, Dr Kreuzer 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.*	The magnetic and electromagnetic data used to generate the results shown in this release are from the 1995 Dighem survey flown by Diamond Field Resources. The data were sourced from the Geological Survey of Denmark and Greenland (GEUS) by Core Geophysics; and provided to Fathom Geophysics. These geophysical datasets and associated files are available for download from GEUS Greenland Portal (http://www.greenmin.gl/). The survey specifications are as follows: • GEUS Filename: DIGHEM_FDEM_and_magnetic_surveys_in_Gardar_Province • Year: 1995 • Company: Diamond Field Resources • Survey type: Dighem AEM & MAG • Block: Arsuk • GEUS Report: 21445 • Line spacing: 200m • Line direction 0° [north-south] Dighem is a frequency domain AEM [Airborne Electromagnetic] system which utilizes a multi-coil coaxial/coplanar technique to energize conductors in different directions. Located in a towed bird slung under the aircraft, coaxial coils are orientated vertically with their axes in the flight direction and the coplanar coils are orientated horizontally. The system records pre-set frequencies/coil pairs to measure the resistivity of the sub-surface. The survey data included three resistivities for 56KHz, 7200Hz and 900Hz for the coplanar coil set (i.e. vertical component) with 56KHz having the shallowest penetration and 900Hz the deepest. A Picodas magnetometer [model 3340] was towed in a bird 20m below the helicopter. The magnetic data were corrected for diurnal variation and the IGRF field removed. The located data file called ARCD_MR.XYZ was used to generate a starting Total Magnetic Intensity [TMI] grid. It should be noted that the

Criteria	JORC Code explanation	Commentary
		located data contains the following location channels: X, Y, LAT, LON; where X and Y are the station locations in the projection: UTM zone 22 Qornoq. The Qornoq projection is EPSG: 2216. The data were re-projected to WGS84 UTM 22N and gridded.
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).*	Not applicable as no drilling has been carried out by Eclipse Metals Limited (Eclipse Metals).
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.*	Not applicable as no drilling has been carried out by Eclipse Metals.
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.*	Not applicable as no drilling has been carried out by Eclipse Metals.
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.*	Not applicable as no drilling or sampling has been carried out by Eclipse Metals.
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,*	Not applicable as no sampling has been conducted by Eclipse Metals.

Criteria	JORC Code explanation	Commentary
	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.*	
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.*	Not applicable as sampling and assaying of the Gronnedal-Ika drill holes was not conducted by Eclipse Metals.
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.*	The Navigation system employed a real time differential global positioning system [RT-DGPS]. Positional locations post processing are likely ± 2m.
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.*	The survey was flown with a north-south flight line direction and 200m spaced lines. The data were gridded using a 50m grid cell size.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	The survey was flown with north-south flight lines resulting in higher resolution data along line.
Sample security	• *The measures taken to ensure sample security.*	Not applicable as sampling was not conducted by Eclipse Metals.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	Not applicable as sampling was not conducted by Eclipse Metals.

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.*	• Mineral Exploration Licence (MEL) 2007-45 is held in the name of Eclipse Metals Greenland Limited, a wholly owned subsidiary of Eclipse Metals. • Licence issued by Greenland Minerals Licence and Safety Authority.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Results from previous exploration accessed through Greenland Mineral Licence and Safety Authority and acknowledged in body of report.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Syenite nepheline intrusive into Archean 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.*	• Not applicable as no drilling has been carried out by Eclipse Metals.
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 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.*	• Not applicable as no data aggregation has been carried out by Eclipse Metals.
Relationship between mineralisation widths and	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with*	• Not applicable as no drilling has been carried out by Eclipse Metals.

Criteria	JORC Code explanation	Commentary
intercept lengths	*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').*	
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.*	• Geological map and geophysical interpretation diagrams included in report.
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.*	• Not applicable as no new sampling or drilling results are presented in this report.
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 testresults; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• All relevant information and data included in report.
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.*	• Ground truthing of geophysical anomalies, sampling and percussion drilling planned for the 2022 field season.