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RANA GRUBER

MINERAL RESERVE STATAMENT

FOR THE

DUNDERLAND VALLEY IRON ORE PROJECT

NORWAY

Report Date: 30th November 2021

Prepared By

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1.0 INTRODUCTION

Micon International Co Limited (Micon) has been requested by Rana Gruber AS (Rana Gruber or the Company) to prepare an independent Technical Report on the Mineral Reserves of the Dunderland Valley Iron Ore Project, Norway, held by the Company, which will form part of the prospectus to be used for listing on the Oslo Stock Exchange.

This Technical Report has been prepared in accordance with the Pan-European Reserves and Resources Reporting Committee (PERC) Standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves Reporting Standard (2021).

The effective date of the Mineral Reserves stated in this report is 1st April 2021.

1.1 LOCATION AND PERMITTING

The iron ore deposits in the Dunderland Valley are situated about 27 km northeast of the town Mo i Rana and approximately 15 km south of the Arctic Circle.

The Dunderland Valley Iron Ore Project is part of the greater Rana Gruber Mine, which is made up of five deposits of which only Ørtfjell is currently being mined by both open-pit and underground methods (Table 1.1).

Table 1.1: Rana Gruber Deposits

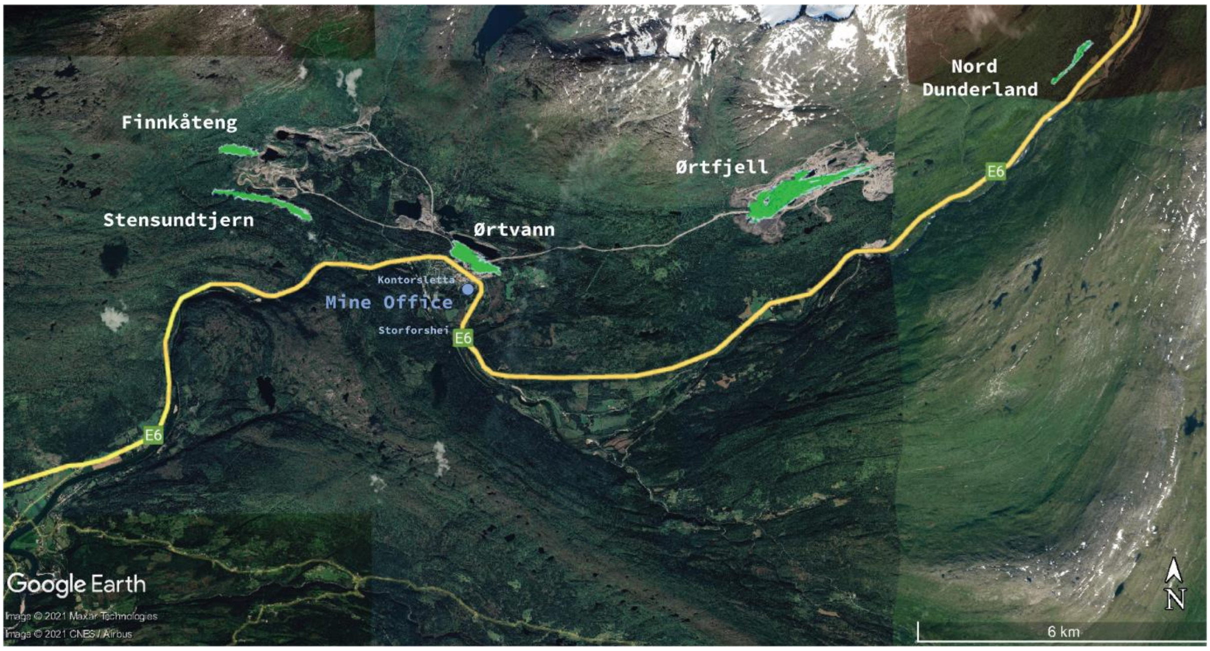
Deposit	Deposit Zone	Method	Status
Ørtfjell	Kvannevann UG	Underground	Active
	Eriksmalmen		
	Kvannevann West		Planned
	Kvannevann East	Open-Pit	Active
	Nordmalm		
Ørtvann	Ørtvann	Underground or Open-Pit	Planned
Stensundtjern	Stensundtjern	Open-Pit	Planned
Finnkåteng	Finnkåteng	Open-Pit	Planned
Nord Dunderland	Nord Dunderland	Open-Pit	Planned

Rana Gruber hold a combination of exploration and extraction rights across the Dunderland Valley, totalling 5,200 acres of land. The location of the Rana Gruber deposits is shown in Figure 1.1.

Rana Gruber has no joint ventures, partnerships or royalty agreements with third parties in the Dunderland Valley concerning the extraction of mineral resources.

Micon is not aware of any liabilities for the Dunderland Valley Iron Ore Project.

Figure 1.1: Location Map of the Rana Gruber Deposits



Source Google, 2021.

1.2 HISTORY

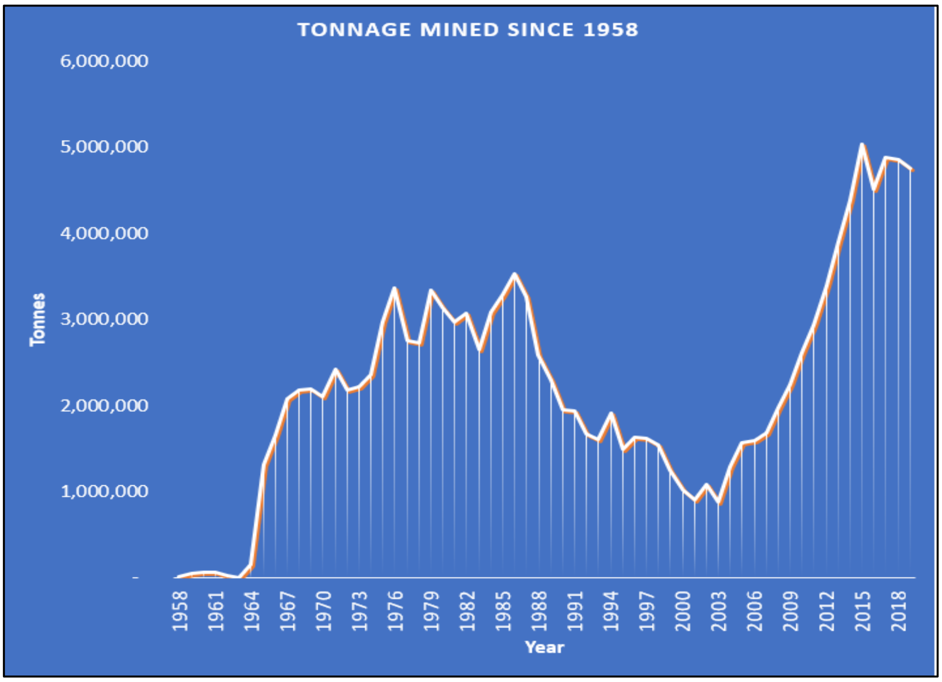
Rana Gruber was founded in 1937 as a collaboration between Sydvaranger AS and the German Vereinigte Stahlwerke to focus on iron ore findings north of Storforshei. After World War II, the Norwegian State overtook all assets in Rana Gruber and DIOC and in 1946 the Norwegian Parliament decided to establish an Iron Ore mill and steel plant in Norway and selected Mo i Rana as the location. In 1955, the first steel was produced in Norway and Rana Gruber became a part of Norsk Jernverk.

During this period the village of Mo i Rana changed to an industrial city and people from all over the country moved to Mo i Rana in order to obtain work. The community needed homes for thousands of new residents. Construction of houses and residential blocks started immediately. In 1930, the population was 1,300 people, this increased to 7,000 in 1955. In 1978, Norsk Jernverk employed approximately 4,500 of the 25,000 town's inhabitants.

During the late 1940s and 1950s a large exploration and mapping campaign was started to better map the iron ore occurrences in the Dunderland valley. The first focus was concentrated on the Ørtvann area with the Vesteråli area to follow (late 1960s). New infrastructure (crusher, ore silo, railway tunnel and bridge, workshops) were established at Storforshei. Following a period of test mining, full-scale, modern mining started in 1964 in the Ørtvann pit. Since then, Rana Gruber AS has been in un-interrupted production.

Reported tonnages from the companies archives document production since 1958. Since then, 138 Mt of iron ore have been mined. From these, 23 Mt were mine from underground with the remainder being produced from open-pits. The mined tonnages per year since 1958 are shown in Figure 1.2. In 2018 and 2019, approximately 4.9 Mt per annum was mined.

Figure 1.2: Production Tonnage from 1958 to 2019



Source Rana Gruber, 2019

1.3 ENVIRONMENTAL AND SOCIAL

Mining has a footprint due to use of land for open-pit mining, roads for access, lay down areas and land-fill areas. Mining operations are controversial even regarding the long mining traditions in the district. As such operations are followed closely and at times critically. Rana Gruber therefore aims to have responsible and safe operations, respecting regulative and environmental rules and the local community. Examples of measures taken to reduce Rana Gruber's footprint include:

- Re-vegetation of new land-fill areas;
- Back-filling of waste material into abandoned open-pits to reduce the environmental footprint;
- Always investigating ways of reducing its footprint by e.g. re-using so-called waste rock for other public or private construction projects;
- Use of tailings for land reclamation, large parts of "modern" Mo i Rana are built on these land areas;
- Water treatment and monitoring to ensure that no pollutants enter the rivers/creeks in the area neighbouring the mine; and,
- Reduction of dust and noise as well as vibrations due to blasting, through e.g. watering of the mining roads during the dry season.

A good example of a successful re-fill and re-vegetation is the project at Stortjønna. There, in close collaboration with the landowner, Rana Gruber re-filled an abandoned open-pit using waste rock from nearby mining operations. The area was compacted and covered with soil. Today the area is re-vegetated and used as wild pasture for sheep.

Rana Gruber has a vision of running all its mining operations CO_2 neutral by 2025 with the high aim for CO_2 free production in the following years.

1.4 MICON INDEPENDENCE

This Public Report has been compiled by Micon International Co Limited (Micon) on behalf of Rana Gruber AS (Rana Gruber) in accordance with the scope of work determined by Rana Gruber and in accordance with the PERC Standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves Reporting (2021).

Micon has exercised reasonable technical skill and diligence. The opinions expressed herein are those of Micon and are based on information provided by Rana Gruber. In conducting the independent review Micon has found no reason to doubt the reliability or completeness of the data provided by Rana Gruber.

Whilst Micon has reviewed the exploration and mining licences, permits and entitlements of the property in so far as these may influence the investigation and development of the mining assets, Micon has not undertaken legal due diligence of the asset portfolio described in this Public Report. The reader is therefore cautioned that the inclusion of exploration and mining properties within this Public Report does not in any form imply legal ownership.

Micon accepts no liability or responsibility for any use or reliance upon information in this Public Report that is used out of context.

Micon is a private company internally owned and is entirely independent of Rana Gruber and its affiliated companies. The personnel responsible for this review and opinions expressed in this Public Report are Micon's full-time employees or Micon associates. For its services in preparing the report, Micon is receiving payment based upon time and expenses and will not receive any capital stock from Rana Gruber or any of its affiliated companies. Micon is reimbursing its associates based upon time and expenses.

1.4.1 Competent Persons and Site Visit

Persons from Micon, Gosselin Mining and Lisheen Technical and Mining Services (LTMS) and who have reviewed the site, drill cores and supervised the preparation of this Public Report are as follows:

- Liz de Klerk, M.Sc., SAIMM, Pr.Sci.Nat., Senior Geologist and Project Manager and Managing Director of Micon's UK office;
- Mathieu Gosselin, B. Eng., Senior Micon Associate Mining Engineer and CEO of Gosselin Mining;
- Joe Burke, Senior Micon Associate Geotechnical Engineer; and,
- Tom Doidge-Harrison, Senior Micon Associate Mining Engineer.

The consultants from Micon and associates responsible for this Public Report and their responsibilities during the production of the different Sections of this Public Report are listed in Table 1.2.

Table 1.2: Authors Responsibilities

Company	Team Member	Site Visit	Responsibility
Micon	Liz de Klerk	18-20th October 2021	Overall of the Public Report
Baker Geological Services Ltd	Howard Baker	June 2019 and February 2020	Mineral Resources
Gosselin Mining	Mathieu Gosselin	18-20th October 2021	Open-Pit Mining and Reserves
LTMS	Joe Burke	18-20th October 2021	Geotechnical
LTMS	Tom Doidge-Harrison	18-20th October 2021	Underground Mining

The Competent Persons from the Project Team according to the definitions listed in PERC are Liz de Klerk, Mathieu Gosselin and Joe Burke.

In addition, Howard Baker of Baker Geological Services Ltd is the Competent Person responsible for the Mineral Resources, which have been summarised and reported herein.

A site visit to the Rana Gruber Mine was undertaken by Liz de Klerk, Mathieu Gosselin, Joe Burke and Tom Doidge-Harrison on 18th to 20th October 2021 covering aspects related to licensing, geology, exploration, QA/QC, mineralogy, laboratory testwork, drill core storage, drill core logging, open-pit mining method, underground mining method, mineral processing, access and infrastructure and environmental and social issues.

2.0 GEOLOGY AND MINERAL RESOURCES

For details regarding the geology, exploration, resources estimation and reporting of Mineral Resources the reader is referred to the April 2021 'Independent Mineral Resource Estimate for the Rana Gruber A|S Iron Ore Deposits, Norway' completed by Baker Geological Services Ltd.

The Dunderland Valley iron ore deposit is hosted in the Neoproterozoic-aged Ørtfjell Group Banded Iron Formation (BIF). The country rock is dominated by mica schists that occur in a sequence of dolomitic and calcitic marble units. Both the mica schists and BIF are strongly deformed with isoclinal folds and crenulations (Figure 2.1). The deposit at Kvannevann is a massive-scale isoclinal fold that can be seen from the morphology of the block model.

Figure 2.1: Photograph of Folded BIF at the Kvannevann Underground Mine

Source: Micon, 2021

Iron oxide mineralisation is dominated by sandy and flaky haemitite (Fe_2O_3) with lesser magnetite (Fe_3O_4). Due to the strong tectonic structure the deposits have a defined cleavage often populated with flaky haemitite, known as specularite. The banded iron mineralisation is interbedded with fine-grained quartz and carbonates.

2.1 EXPLORATION

Mapping of the BIF in the Dunderland Valley dates back to 1880. This was followed by historical drilling, which intensified in the 1940s. In 2012 the Norwegian Geological Survey flew an aeromagnetic survey and by the end of 2014 a total of 1,518 diamond drill holes had been completed on iron ore targets in the Dunderland Valley amounting to 206,390.19 m of core.

Rana Gruber have drilled 237 diamond drill holes over the project area including twin drilling of historical holes. A total of 1,518 diamond drill holes have been completed for a total of 206,309 m of drill core. The majority of drilling, both historical and modern, has been conducted on a 50 m grid spacing. The recent and historical core was visited by Micon whilst on site.

Core is prepared and assayed on site at Rana Gruber’s laboratory which uses internationally recognised procedures for analysing total iron content sulphur and manganese (MnO). A data verification project was undertaken by Rana Gruber and a number of pulps from Ørtfjell (432) and Stensundtjern (100) were sent to ALS Scandinavia AB for XRF analysis. The results showed a good correlation between the two laboratories.

Detailed descriptions of the exploration and sampling can be found in the April 2021 Baker Geological Services Mineral Resource report.

2.2 MINERAL RESOURCES

In April 2021 Baker Geological Services Ltd (GBS) estimated the Rana Gruber Mineral Resources (Table 2.1).

Table 2.1: Rana Gruber Mineral Resources, 9th April 2021 (PERC, 2017)

Deposit	Mining Method	Classification	Tonnage (Mt)	Density (g/cm^3)	Fe_Tot (%)	Fe_Mag (%)	S (%)
Ørtfjell	Block Cave	Measured	62.1	3.4	32.6	3	0.01
		Indicated	57.8	3.4	31.9	2.6	0.01
Block Cave M+I Total			**119.8**	**3.4**	**32.3**	**2.8**	**0.01**
Including 'must-take' material			*7.2*	*2.8*	*14.3*	*2.3*	*0.02*
Ørtfjell	Open Stope	Measured	24.3	3.5	34.1	5.7	0.02
		Indicated	32.1	3.5	34.8	3.6	0.02
Open Stope M+I Total			**56.4**	**3.5**	**34.5**	**4.5**	**0.02**
Ørtfjell	Open Stope	Inferred	10.8	3.3	26.7	3.4	0.01
Open Stope Inferred Total			**10.8**	**3.3**	**26.7**	**3.4**	**0.01**
Including 'must-take' material			*2.7*	*3*	*15.3*	*2.8*	*0.01*
Ørtfjell	Open-pit	Measured	24.9	3.4	33	6.5	0.03
		Indicated	107.0	3.5	33.5	6.1	0.02
Ørtvann			28.8	3.4	32.8	20.4	0.22
Stensundtjern			35.9	3.5	34.3	8.7	0.06
Finnkåteng			6.6	3.5	36.2	4.8	0.03
Open-Pit M+I Total			**203.2**	**3.5**	**33.6**	**8.6**	**0.06**
Ørtfjell	Open-pit	Inferred	0.7	3.4	30.7	6.7	0.01
Ørtvann			31.5	3.5	33.3	16.3	0.21
Stensundtjern			0.2	3.5	34.7	5.8	0.04
Finnkåteng			6.0	3.6	37.9	4.9	0.02
Nord Dunderland			15.6	3.6	37.1	4.1	0.01
Open-Pit Inferred Total			**54.1**	**3.5**	**34.9**	**11.3**	**0.13**
TOTAL RANA GRUBER RESOURCES			**444.4**	**3.5**	**33.3**	**6.7**	**0.05**

Notes:

1. Errors may occur due to rounding
2. The Open-pit Mineral Resources estimate was constrained within lithological and grade based solids and within an optimised pit shell defined by the following assumptions: metal price of NOK 1,470/tonne for a 71.5% Fe_TOT magnetite concentrate and NOK 910/tonne for a 62% Fe_TOT haematite concentrate; magnetite recovery of 60%, haematite recovery of 80%; processing costs of NOK 99.9/t ore processed (after 5% dilution and 95% recovery) and a mining cost of NOK 23.9/t.

3.0 STENSUNDTJERN OPEN-PIT PROJECT

3.1 INTRODUCTION

The Stensundtjern deposit is located about 4.5 km northwest of the village Storforshei. There is an existing open-pit at Stensundtjern, where marble was extracted for use in steel production in the 1970s (Figure 3.1). Iron ore mineralisation at Stensundtjern outcrops at surface and has been defined over 2.5 km in strike, dipping at around 50° south and known to extend to 200 m below the surface. The overburden is almost non-existent or very scarce. Apart from that the area is nearly untouched and covered by the typical pine/birch forest commonly found in the Dunderland Valley.

The open-pit is planned to be mined in two pits, East and West, due to a protected zone in the centre of the deposit that must be excluded from the mining area.

3.2 GEOTECHNICAL STUDIES

The proposed Stensundtjern open-pit area is currently overlayed with a shallow overburden, but exposed in several areas by outcrop and small scale historical mining.

The geotechnical conditions and stability parameters are expected to be similar to those at the nearby Kvannevann open-pits developed to mine Ørtfjell deposit.

The orebody is of medium strength and hosted in a slightly stronger undisturbed host rock. The orebody is steeply dipping with the predominant joints/structures being sub parallel to the orebody.

Evidence from surface exposures show a blocky and stable ground that will support similar design criteria as currently used in the Kvannevann open-pit.

No separate slope stability analysis or studies have been undertaken on the proposed site.

3.3 MINING DESIGN

The Stensundtjern Life-of-Mine (LoM) production plan was modelled in NPV Scheduler (NPVS) based on the BGS block model using the Lerchs-Grossmann (LG) algorithm. A series of nested pit shells were generated according to optimal economic inputs and technical optimisation parameters.

3.3.1 Mining Method

The proposed open-pit mining method that has been designed for extraction of iron ore at Stensundtjern has been selected based on historical information and the characteristics of the mineralisation.

The Stensundtjern deposit geometry combined with an outcropping mineralisation and a relatively flat topography favours surface mining methods.

Based on the rock strength drill and blast operations will be required before iron ore excavation. Drilling is planned to be performed using conventional down-the-hole drill rigs. Blasting will use commercial bulk explosive with down-hole delay initiation. Drilling depth will vary depending on the actual waste and iron ore depth for different mining areas over the mining property. Multiple benches are used to handle waste.

Figure 3.1: Previous Open-Pit Mined in the 70s

Source: Micon, 2021

The commercial explosive selected for blasting is emulsion or slurry because it is easily accessible in the Rana Gruber regional area.

3.3.1.1 Waste Removal

Waste material comprises calcareous marble with slivers of mica schist meta sediments with a calcareous quartz-rich hangingwall and a footwall of dolomitic marble and mica schist iron ore mineralisation.

Waste excavation will progress ahead of iron ore excavation in maximum 10 m face height mining production benches for safe operational purposes. Since the waste thickness is generally less than or equal to 60 m within the open-pit, multiple waste mining benches will be developed and maintained ahead of iron ore excavation. Bench height and mining depths will vary depending on the actual waste rock thickness in different mining areas over the deposit. Waste mining fronts will be mined approximately 500 m in advance to iron ore mining fronts where possible to create a sufficient buffer area.

3.3.1.2 Iron Ore Mining

The iron ore will be blasted on 10 m benches. This conventional open-pit method uses shovels or front-end wheel loaders, supported by bulldozers, to load mining vehicles with either waste or iron ore. The size of the equipment will be smaller compared to that used for the overburden, allowing more selectivity for the different iron ore Low Fe_Mag type and High Fe_Mag type. The shovels will be located on top of the iron ore and excavated material loaded onto the trucks at the base level of the bench allowing additional loading height.

Iron ore Run-of-Mine (RoM) will be hauled using CAT 775G trucks directly to the planned primary crusher located on the east edge of the open-pits and direct tip it to the crusher or to a RoM rehandling pad. The crushed ore will then be loaded into a VOLVO 35-t payload truck and transported 3.7 km to the refurbished load out silo.

3.3.2 Planned Production Rates

The planned open-pit production rates for the Rana Gruber Mine are provided in Table 3.1 and illustrated in Figure 3.2.

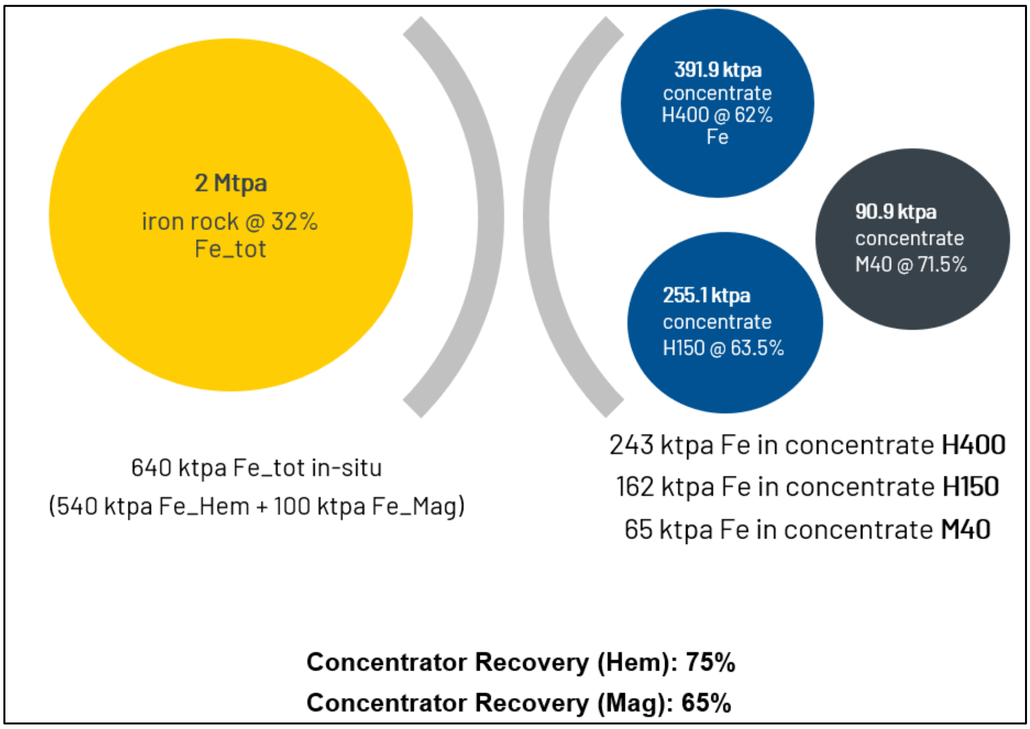
The mining production rate objective is set at 2 Mt RoM per annum delivered to the primary crusher or RoM pad stockpiles over the life of the project. The reference point at which RoM is defined is at the point where the RoM is delivered to the crusher i.e., primary crusher or RoM pad stockpiles. The expected LoM is 15 years for the Stensundtjern deposit.

The process plant overall recovery provided by Rana Gruber are 75% and 65% for haemitite and magnetite, respectively. The iron ore will be extracted from the current Stensundtjern exploitation rights (Utviningsrett).

Table 3.1: Stensundtjern Planned Production Rates

Parameter	Value
Magnetite Processing Plant Recovery	75%
Haemitite Processing Plant Recovery	65%
Weight Percentage of H400 Concentrate	60%
Weight Percentage of H150 Concentrate	40%
Processing Plant Iron Ore Planned Production	737.9 kt/a
Processing Plant Planned RoM Throughput	2 Mt/a

Figure 3.2: Stensundtjern Annual Mine Production Rates and Recoveries



Source: Rana Gruber

3.3.3 Processing Plant Requirements

The planned mining production target is approximately 2 Mt/a RoM from Stensundtjern open-pits mine targeting first the higher grade iron ore within Zone 101 (High Fe_Mag).

RoM feed will be processed in the Rana Gruber processing plant with an overall iron ore processing recovery of 75% and 65% for haemitite and magnetite, respectively.

The Stensundtjern processing recoveries and planned production rates are presented in Table 3.2.

Table 3.2: Stensundtjern Processing Recoveries and Planned Production Rates

Parameter	Unit	Value
Yearly M40 Concentrate at 71.5% Fe	kt/a	90.9
Yearly H400 Concentrate at 62% Fe	kt/a	391.9
Yearly H150 Concentrate at 63.5% Fe	kt/a	255.1
Yearly Fe_Mag in RoM	kt/a	100
Yearly Fe_Hem in RoM	kt/a	540
Average Fe_Mag in RoM	%	27
Average Fe_Hem in RoM	%	5

The Rana Gruber processing plant does not require a consistent RoM grade within defined variation limits. Variations will occur daily depending on the open-pit mine production plan and grade control, and throughout the Stensundtjern LoM. The assumed sulphur (S) and manganese oxide (MnO) grades for RoM were used as soft constraints to generate a LoM plan.

3.3.4 Open-Pit Design Parameters

An overall slope wall angle of 55^0 was applied based on the existing Kvannevann open-pit at the Rana Gruber Mine for a high wall slope design incorporating 10 m high double bench (total 20 m), 8.5 m wide berms and an 80° bench face angle for all rock types. This angle was applied on both the hangingwall and footwall for the optimisation. Ramps were not separately accounted for in the NPVS open-pit economics model determination and LG optimisation.

Overall slope angles achieved for the Stensundtjern open-pits will be flatter than the maximum inter-ramp angle listed in Table 3.3, due to the inclusion of haulage access ramps and safety berms.

Table 3.3: Open-Pits Design Parameters

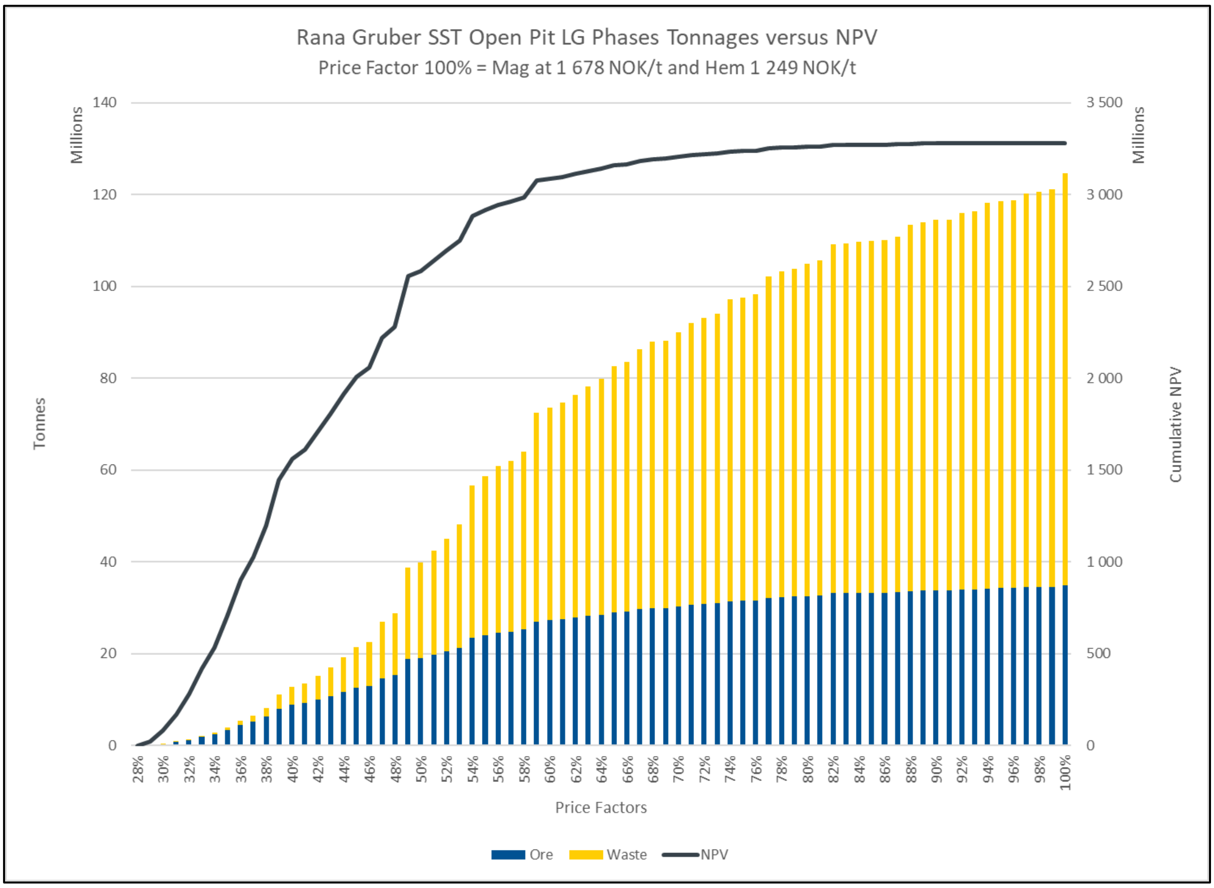
Parameter	Unit Symbol	Value
Single Bench Height in Waste Rock	m	10
No. of Benches between Catch Benches	no	2
Total Height	m	20
Bench Face Angle	°	80
Catch Bench Width	m	8.5
Single Lane Haulage Ramp Width	m	15
Haulage Ramp Gradient	%	10
Final Slope Angle	°	59
Minimum Mining Width	m	40

Rana Gruber provided the information regarding the main haul ramp gradient as a maximum 1:10 (or 1 in 10). Haul road widths are designed to be one and a half to two times the width of the largest haulage equipment for two-way traffic with extra width employed on the curves. Micon recommends that haul road gradients should not exceed 10% so that mining vehicles can be loaded to their maximum payload without slowing down too much driving up in-pit access ramps. Drainage cross falls should be approximately 2% to a culvert. Average hauling distances are estimated at 3,700 m one way over the LoM.

The Stensundtjern open-pit design used a direct iron ore mining cost of NOK/t 37.43, a waste mining cost of NOK/t 23.9 and a processing cost of NOK/RoM tonne 65. The resultant optimised pits tonnage versus NPV generated in NPVS are shown in Figure 3.3.

The Stensundtjern open-pits stability parameters are derived from the current mining open-pits slope stability operational experience at the Rana Gruber Kvannevann mine site. No mine slope stability analysis has been undertaken using any slope stability analysis software programme This is deemed to provide reliable guidance at the Pre-Feasibility Study (PFS) level of definition for the Stensundtjern open-pit mine design.

Figure 3.3: NPVS Cumulative Pit by Pit Results Summary



Source Micon, 2021

3.3.5 Mining Dilution and Losses

Based on Micon's experience mining modifying factors were applied in NPVS for iron ore dilution and losses. The overall mining losses was estimated at approximately 5% based on a 95% mining recovery assumption. The iron ore grade of the diluting material surrounding the mineralised domains was assumed to be zero at the exception of Inferred Mineral Resources considered as dilution.

3.3.6 Direct Mining Costs

Anticipated direct mining costs relate to the cost per unit of planned production such as load and haul and blasting. A combined anticipated mining cost per tonne was provided by Rana Gruber and listed in Table 3.4 for each rock type mined.

Table 3.4: Direct Mining Costs Assumptions

Parameters	Unit	Value	Description
Iron Ore	NOK/t of iron ore	37.43	-
Incremental Iron Ore Mining Costs	NOK/t of iron ore	0.02	Above and below bench toe elevation 170 m
Waste	NOK/t of waste	23.9	-
Incremental Direct Waste Mining Costs	NOK/t of waste	0.02	Above and below bench toe elevation 170 m

3.3.7 Processing Costs and Recovery

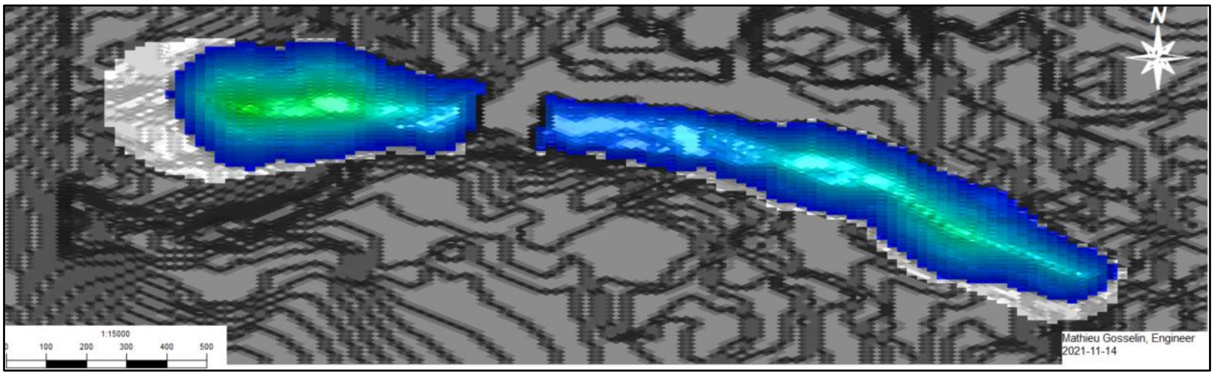
The following assumed values for iron ore processing recovery for both haemitite and magnetite elements as well as an average processing operating cost were provided by Rana Gruber:

- Average haemitite iron ore processing recovery of 62.0% and 63.5% for H400 concentrate and H150 concentrate, respectively;
- Average magnetite iron ore processing recovery of 71.5% for M40 concentrate; and,
- Plant and infrastructure operating expenses (inclusive of general and administration) 65 NOK/RoM tonne.

3.4 OPTIMISATION RESULTS

The selected pit shell was the LG pit shell with a price factor (PF) of 69% (Figure 3.4). Note the East and West pits with the exclusion zone separating them. The pit shell was selected as it was considered to contain a reasonable tonnage for both waste and ore to be extracted as open-pit before assessing other mining methods such as underground mining.

Figure 3.4: Stensundtjern Selected Pit Shell



3.4.1.1 Pushbacks

The tonnages and grades from the seven pushbacks are presented in Table 3.5.

Table 3.5: Stensundtjern Mine Pushback Phases

Pushback	Waste (Mt)	Iron Ore (Mt)	Revenue (MNOK)	Processing Cost (MNOK)	Mining Cost (MNOK)	Strip Ratio
1	11.5	4.9	1484	314	465	2.4
2	30.3	5.2	1763	335	956	5.8
3	13.1	5.3	1586	338	541	2.5
4	3.6	5.1	1704	321	299	0.7
5	3.5	5.1	1562	315	302	0.7
6	0.9	3.9	1255	239	191	0.2

4.0 ØRTFJELL WEST UNDERGROUND PROJECT

4.1 INTRODUCTION

Ørtfjell West, or Kvannevann West is the westerly extension of the currently operating Ørtfjell underground mine. Mining at Ørtfjell initiated with the Westbrudd, Kvannevann and Erik open-pits. Open stope mining began in 1999 at Kvannevann with drilling on level 320 and the transition from open stope to sub-level caving occurred between 2010 to 2011.

Rana Gruber plan to mine the western Kvannevann orebody using a sub-level open stope (SLOS) method utilising rib and sill pillars and no backfill.

This mining method was initially used with success in the early life of the eastern Kvannevann mine prior to adopting the sub-level caving (SLC) method currently used, but it must be noted that the early SLOS was undertaken in virgin ground conditions with a low stress regime. The proposed area for the change of mining is located in a more complex structural fold with significant induced stresses from the extensive SLC and overlying open-pit mining.

4.2 GEOTECHNICAL STUDIES

The Rana Gruber mines are a mature operation with extensive geotechnical data acquired from back analysis, monitoring, testwork, modelling and observations.

This data was examined to assess the proposed change in the mining method along with considering the specific conditions resulting from induces stresses, possible structures and parallel lens mining.

The mining of the proposed block of ore above the 123 level will create an unstable mining area that will require detailed study prior to mining beneath it at a later stage. It is recommended that a risk assessment be undertaken that evaluates the risk of the proposed mining to the current surface and environment and the ramifications for future mining at depth.

4.2.1 Rock Strength

The orebody (iron ore consisting of haemitite and magnetite) is in direct contact with the mica schists and carbonates host rocks forming a tight cohesive surface.

The rock mass is deformed and folded on a large scale, 30 m to 100 m wide and dipping at 85°, forming favourable lenses along the strike. The dominant joints sets are controlled by the foliation and are parallel to the orebody which is favourable for transverse mining. There is no evidence of large-scale structures at depth, but the effects of the tight folding will need further examination by diamond drilling, drift mapping and an examination of the open-pit benches.

The ore is a medium strength rock with an average UCS of 73 MPa, the host rock is stronger at 85 MPa, but readily unravels when unconfined. A stronger more competent quartz mica shist zone at 110 MPa occurs in places and can result in unfavourable stress distributions. These areas need to be identified and regarded as areas of potential high stress.

4.2.2 Rock Behaviour

Ongoing stress monitoring on site indicates that the major principal stress has rotated almost 90° and is now perpendicular to the strike.

The induced stresses have significantly increased with mining such that a K ratio greater than 4 is now acting on the ground in proximity to the caving front. It is anticipated that the mining of the west Kvannevann open-pit above the planned area of mining will have changed the stress environment and will need to be examined.

Extensometer monitoring shows that displacements are low and confined to the immediate area of caving with little indications of block failure or large-scale slabbing.

The underground excavations are supported by a 50 mm to 75 mm thick application of synthetic fibre reinforced shotcrete with a systematic pattern of resin grouted rebar in short life production excavations and longer cement grouted CT-bolts in long life infrastructural excavations. This enforcement ensures little or no unfavourable ground movements outside the caving zone.

The surface expression of the caving is very limited with only moderate tension cracking and no step slumping or toppling failures.

The proposed longitudinal stopes are designed to be 65 m high and 75 m on strike with a 35 m rib pillar and 25 m sill pillar giving a hydraulic radius (HR) of 15 to 17. The perpendicular direction of the stress will result in the long span (75 m) footwall and hangingwall being in a large tensile zone. This tensile zone will be further increased when the stopes parallel to the mined-out area are subsequently mined.

4.3 MINING DESIGN

A SLOS mining method using both transverse and longitudinal options depending on the ore width is being proposed to extract the ore above the 123 level at the western end of the Ørtfjell orebody at Kvannevann West.

The sharp folding nose of the orebody and parallel lenses (approximately 300 m apart) would make the use of the current SLC method unsuitable due to the interaction of the caving fronts.

Underground mine design has been completed in Maptek's Vulcan software.

4.3.1 Mining Method

The proposed underground mining method that has been modelled in this study involves a continuation of the existing (SLC) method in the Kvannevann Zone ('KVC'), on consecutive levels, incorporated with lateral development from the existing underground mine to large, Sub-Level Open Stopes (SLOSs) to the West (Kvannevann West – 'KVW'), North (Eriksmalmen – 'EMM') and East (Kvannevann East – 'KVE'). These SLOSs are intended to be both transverse and longitudinal with respect to strike.

4.3.1.1 Mining Method Selection Process

A qualitative assessment of suitable mining methods was undertaken by Rana Gruber in 2021. This assessment was reviewed during the course of this study. This process considered the following criteria:

- Drainage;
- Prior experience with SLC;
- Prior experience with SLOS;
- Rock strength, behaviour and characteristics;
- Modelled geometry of Mineral Resource; and,
- Production considerations.

4.3.1.2 Current Mining Method at Ørtfjell

Rana Gruber currently develops a cave with caving fronts on sub-levels with drilling / mucking drives on any given level spaced at an interval of 22 m with a 32 m interval between sub-levels. The maximum theoretical hole length to be drilled by the fleet of Simba M6 long-hole drill rigs is approximately 43 m, which is just beyond the accurate range of the rig. However, this set-up is understood to produce a reasonable result in terms of recovery and crucially is well practiced.

Both transverse and longitudinal SLOSs were developed and mined on the 250 Level at Rana Gruber and were reported to remain stable prior to the SLC being developed below.

4.3.2 Design Criteria

4.3.2.1 Sub-Level Cave Design

The sub-level caving mining method is a well-practiced mining technique employed at Rana Gruber and the caving design and caving front sequencing incorporated in this study reflects the current method being used. The level spacing for the SLC levels considered in this study (155, 123, 091) is 32 m. The individual SLC unit widths (drill / mucking drive spacing) are 22 m. All loading and access drives are placed in the footwall and are designed at a drainage gradient of 1.25%. All drilling / mucking drives are designed at a drainage gradient of 0.6%.

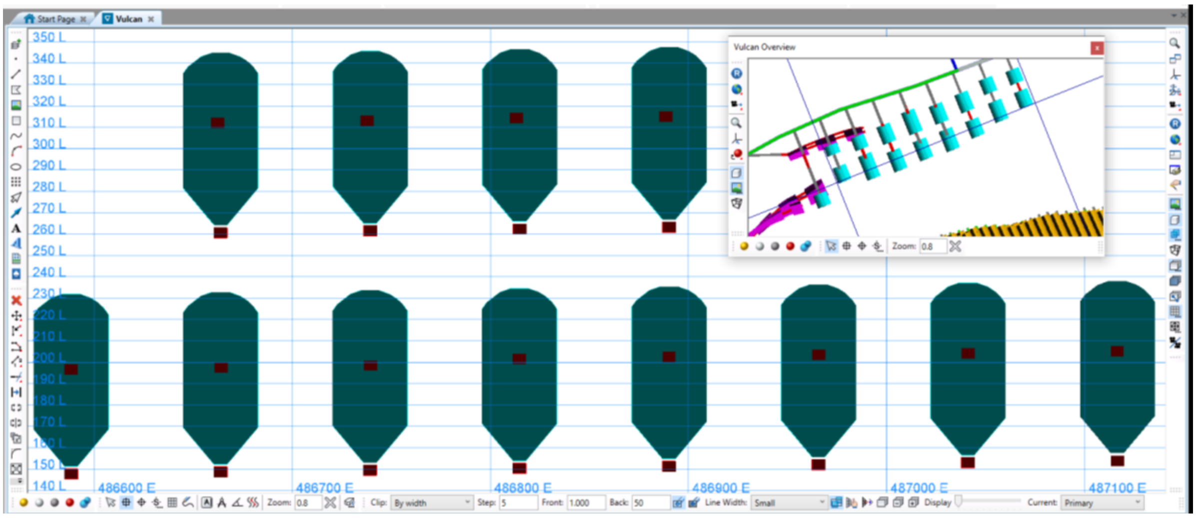
4.3.2.2 Sub-Level Open Stope Design

The transverse SLOS parameters are as follows:

- Transverse SLOSs are designed to a maximum H of 87 m, W of 35 m (Figure 4.1);
- 90° Dump Angle;
- A mucking / uphole LH drilling level is designed at the base of the transverse SLOS and a central uphole/downhole LH drilling level is designed in the centre giving a maximum hole length of 33 m;
- A minimum 50° rill is designed for the mucking level;
- SLOS maximum length 50 m based on a 15 m (HR);

- 50 m to 75 m long stoping 'runs' are divided such that a 50 m 'A' section corresponds with a 'Y' section for the >50 m portion. The 'Y' portion has reduced recovery of 70% applied;
- >75 m stope 'runs' have a 25 m rib pillar inserted in the centre portion;
- A 20 m stand-off from surveyed surface pit extents (as per topography provided by Rana Gruber) is imposed on all wireframes to act as a crown pillar;
- 25 m sill pillars are designed between levels;
- Loading / access drifts designed at a drainage gradient of 1.25%;
- Drilling / mucking drifts designed at a drainage gradient of 0.6%;
- The transverse SLOS layout is based on a stope W of 35 m with a sterilised pillar W of 35 m (Figure 4.1); and,
- T85 Loading / Mucking drift only on levels associated with stope production.

Figure 4.1: Transverse SLOS Cross-Section



Source: Micon, 2021

The longitudinal parameters are as follows:

- A maximum width of 35 m is imposed on all longitudinal SLOSs;
- 90° Dump Angle;
- Where no central up/downhole drilling level is planned a maximum H of 30 m is imposed;
- Minimum 25 m sill pillars are designed between levels; and,
- Mucking drifts are designed to return above the cut-off grade.

4.3.2.3 Assumptions

In relation to mine design the following assumptions have been made:

1. Natural drainage above the 123 Level.
2. Blasted material will rill at 50°.

3. No slots / raises / hammer-heads accounted for.
4. Default waste density 2.8 t/m^3.

4.3.2.4 Ventilation Considerations

The conceptual design that relates to this study assumes that it will be possible to create a fresh-air circuit utilising the strategic level-to-level ventilation connections and the underground to surface vent raises and breakouts.

4.3.2.5 Secondary Egress Considerations

A means of secondary egress has been designed via KVW235N_H09A which connects the upper EMM zone to the surface via a ramp and portal. This is not scheduled to be completed until the operation is in the medium term (2032) so consideration must be given to the use of refuge chambers for the blind ends that will be created.

4.3.3 Wireframing Process

4.3.3.1 Conceptual Layout

Wireframes have been digitised to demonstrate access to and feasible three dimensional mining shapes for, all the underground mining areas considered in this study. It has been demonstrated that access can be achieved for the 091 level for the SLC extension in the KVC zone, both 123 and 235 Levels in the EMM zone, both 123 and 190 Levels in the KVE zone and the 123, 235 and 347 Levels in the KVW zone. The development only conceptual layout is shown in Figure 4.2.

4.3.3.2 Digitising

The conceptual layout consists of digitised centre-line strings representing individual development headings. Wireframes were created using the ‘Primitive’ functionality in Maptek’s Vulcan software (Figure 4.2)

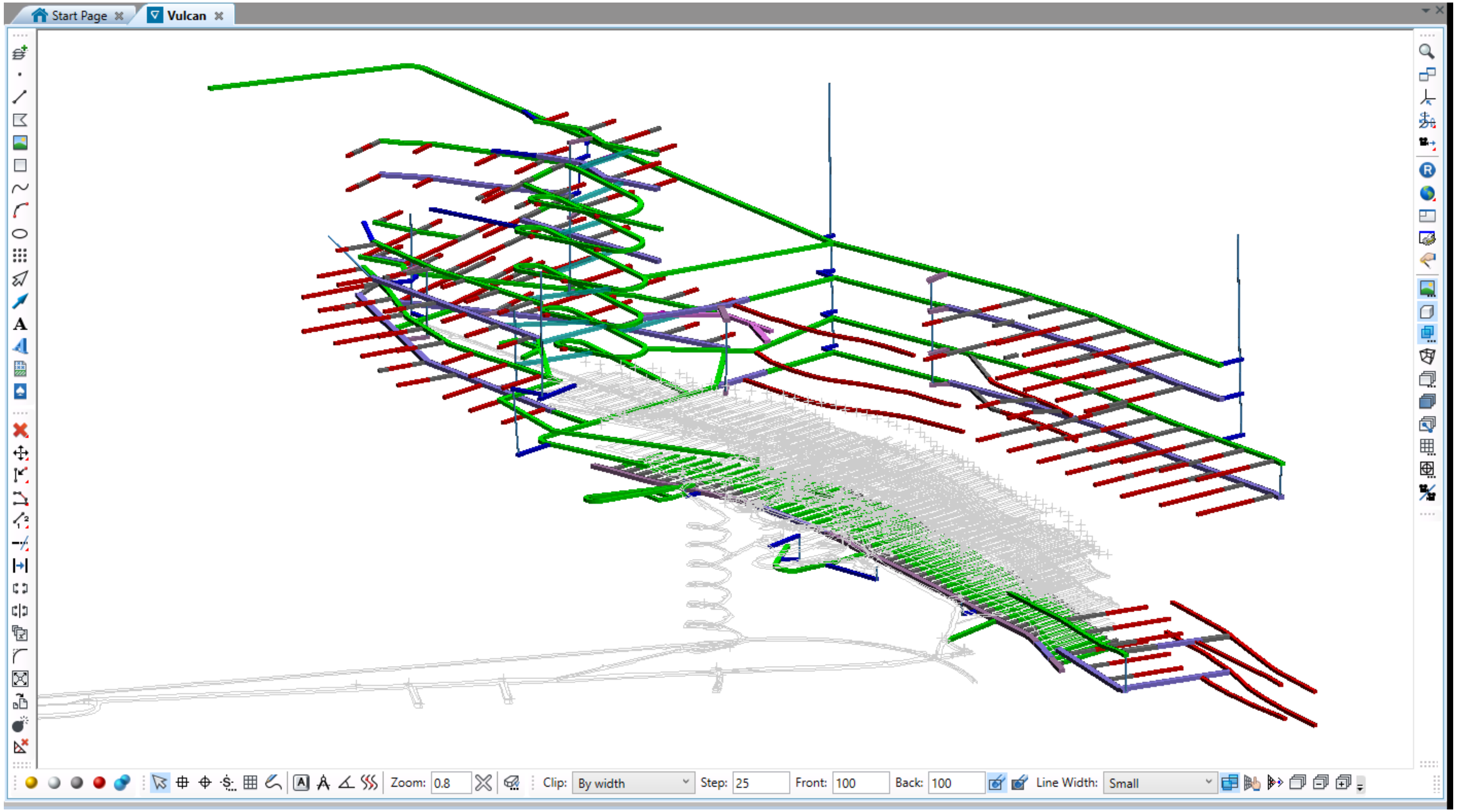
SLC and SLOS (Transverse) wireframes were digitised using the same method.

4.3.3.3 Grade Reporting

A total of 450 wireframes were analysed in this study. Tonnes and Grade were estimated for each wireframe by cross-referencing a block model with the wireframe utilising Maptek’s Vulcan Software, Version 12.0.1.

The block model used was provided by Rana Gruber and created by Baker Geological Services Ltd. The block model was imported into Vulcan as a Datamine Block model and subsequently validated by running two tonnes and grade reports, one in Datamine and one in Vulcan, on a single set of wireframes. The variance in results was less than 0.01%.

Figure 4.2: Ørtfjell – Conceptual Underground Development Layout



Source: Micon, 2021

4.3.3.4 Method for Dealing with Depleted Block Model on 155 and 123 Levels

The reconciliation method employed by the client has resulted in the block model being depleted of blocks on parent-block scale. Sixteen wireframes for the SLC on the 123 and 155 levels intersect these depleted areas and as such only return tonnage and grade, when interrogated against the block model, for the contained blocks. To allow for the discrepancy in tonnage the following procedure using a volume report was followed.

A tonnage and grade report uses Vulcan's 'advanced reserves' function and only reports on block model blocks within the wireframes in question. Thus, the tonnages are low, but the grades are assumed to be representative.

The Volume Report ignores the block model completely and simply returns volume for each relevant wireframe.

Within the scheduling model each of the sixteen wireframes were given the grade of their contained blocks and the volume of the wireframe. Tonnages were calculated from the volume and density of the contained blocks.

4.3.4 Mining Factors

The values for dilution and recovery applied to the wireframe tonnages and grade values, per excavation type, are presented in Table 4.1.

Table 4.1: Mining Factors

Parameter	Excavation Type	Recovery (%)	Dilution (%)	Overbreak (Parent is Ore) (%)	Dilution Grade (%)
S	Transverse SLOS	95	5	-	100
S	Transverse SLOS (>50 m)	70	5	--	100
L	Longitudinal SLOS	95	10		0
C	SLC 155 (Longitudinal)	77.5	10	-	0
C	SLC 123	120	10	-	0
C	SLC 091	105	10	-	0
D	Drilling / Mucking Drift	100	8	0	100
M	Mucking Drift	100	8	-	100
R	Ring Drilling Drive	100	8	0	100
H	Haulage	100	8	-	100
A	Airway	100	8	-	100
V	Vent Raise to Surface	100	0	-	0
W	Internal Raise	100	0	-	0
I	Infrastructure	100	8	-	100

'Dilution Grade' refers to the percentage of the wireframe's returned metal grades that are given to the diluting tonnes.

'Overbreak (Parent is Ore)' Refers to Drilling / Mucking drifts that are ore and are therefore passing through a future bulk mining wireframe (SLC or SLOS). This classification is not assigned overbreak as the overbreak that will in reality occur should be discounted from the 'Parent' SLC or SLOS and there is no simple method to do this. In this study the overbreak tonnes and metal tonnes that should be assigned to these wireframes is left with the 'Parent' wireframe.

4.3.4.1 Dilution

Dilution is applied to every wireframe as defined in Table 4.1.

Dilution Tonnage is calculated such that:

Dilution Tonnes = Wireframe Tonnes * Dilution %

The 'diluted' wireframe tonnage is calculated such that:

Wireframe Tonnes + Dilution Tonnes = Diluted Tonnes

The 'diluted' grade is calculated such that:

((Wireframe Metal Tonnes + Diluting Metal Tonnes)/Diluted Tonnes)*100

4.3.4.2 Recovery

For each wireframe:

Recovered Tonnes = Diluted Tonnes * Recovery %
Recovered Grade = Diluted Grade

4.3.4.3 Classification and Must-Be-Mined Waste

In this study, each block model block is classified as either;

- Measured (MEA);
- Indicated (IND);
- Inferred (INF); and,
- Unclassified (UNC).

It is possible that any single wireframe may include block model blocks from any or all categories. However, all Reported Tonnes and Grade figures only include the metal tonnes associated with block model blocks that are either MEA or IND.

The metal tonnes that are associated with block model blocks that are INF or UNC are removed such that:

Reported Recovered Tonnes = Recovered Tonnes
Reported Recovered Metal Tonnes = Recovered Metal Tonnes – ((INF + UNC) Metal Tonnes)
Reported Recovered Grade = Reported Recovered Metal Tonnes/ Reported Recovered Tonnes

As such, INF and UNC material is treated like additional dilution at 0% grade, or ‘Must-Be-Mined Waste’.

4.3.4.4 Cut-Off Grade

A cut-off for inclusion Reserves of >25%Fe_Tot was imposed on the wireframes. This cut-off point was defined by Rana Gruber.

With the exception of waste development wireframes, once all mining factors were applied to any wireframe, if it returned a grade of <25%Fe_Tot, it was interrogated visually to see if could be improved to return above cut-off while still representing a feasible mining shape. If this was not possible, it was excluded from consideration, along with its associated development.

5.0 PRODUCTION SCHEDULING

Micon created LoM production schedules for both Stensundtjern and Ørtfjell West in order to estimate Mineral Reserves. These were combined with the current mining operations, depleted up to the 9th April 2021.

5.1 STENSUNDTJERN SCHEDULE

The LoM production schedule for Stensundtjern is undertaken through the mine scheduling of annual mine production of at least 2 Mt RoM. The mine production schedule did include any specific target of the rock type attributes called Zone, i.e. Low Fe_Mag or High Fe_Mag.

Due to a very low thickness of overburden, no pre-production year has been added to the production schedule. The production schedule meets the requirement of 2 Mt from Year 1 to Year 14 fully. The last Year 15, has circa 4.5 months of RoM production only. This open-pit mine production schedule from Stensundtjern will be added after the open-pits mine production schedules of both Kvannevann East and Nordmalm.

The starter pits are located in the subcropping iron ore in the west and east pit. in order to maximise NPV and maintain low capital expenditures. More than half of the surface area of the West pit is mined in Year 1.

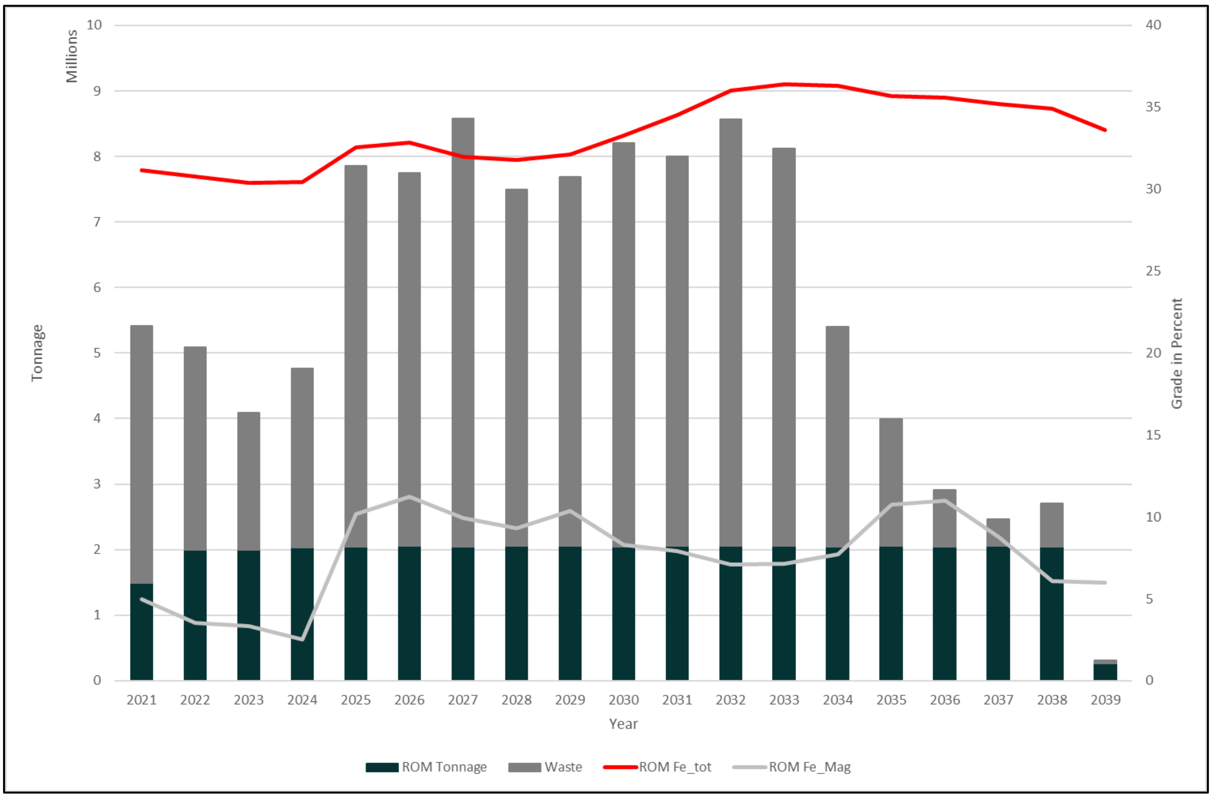
The mine plan begins with the mining of the east pit at a relatively high stripping ratio of (waste tonnes for each tonne of feed) to give access to 160 kt of high grade iron ore in year one. The open-pits design parameters applied to the East and West open-pits are shown in Table 5.1.

Table 5.1: Stensundtjern Bench Slope Parameters

Parameters	Units	Value
Single Bench Height	m	10
No. of Benches between Catch Benches	no	2
Total Height	m	20
Bench Face Angle	°	80
Catch Bench	m	8.5
Inter-Ramp Angle	°	59

As a result of the work outlined in Section 3.0, the open-pit production schedule presented in this study considers a total of 36.5 Mt at 33.49% Fe_Tot (Measured and Indicated only), extracted over 19 years, with the first year being a partial year. The schedule of Mineral Reserves from open-pit only is shown in Figure 5.1.

Figure 5.1: Open-pit LoM Schedule and Grade



5.2 ØRTFJELL WEST SCHEDULE

Access to all new zones within the Ørtfjell West (EMM, KVC091 Level, KVE and KVW) has been designed, digitised and reported for tonnes, grade and metres as described in Section 4.0.

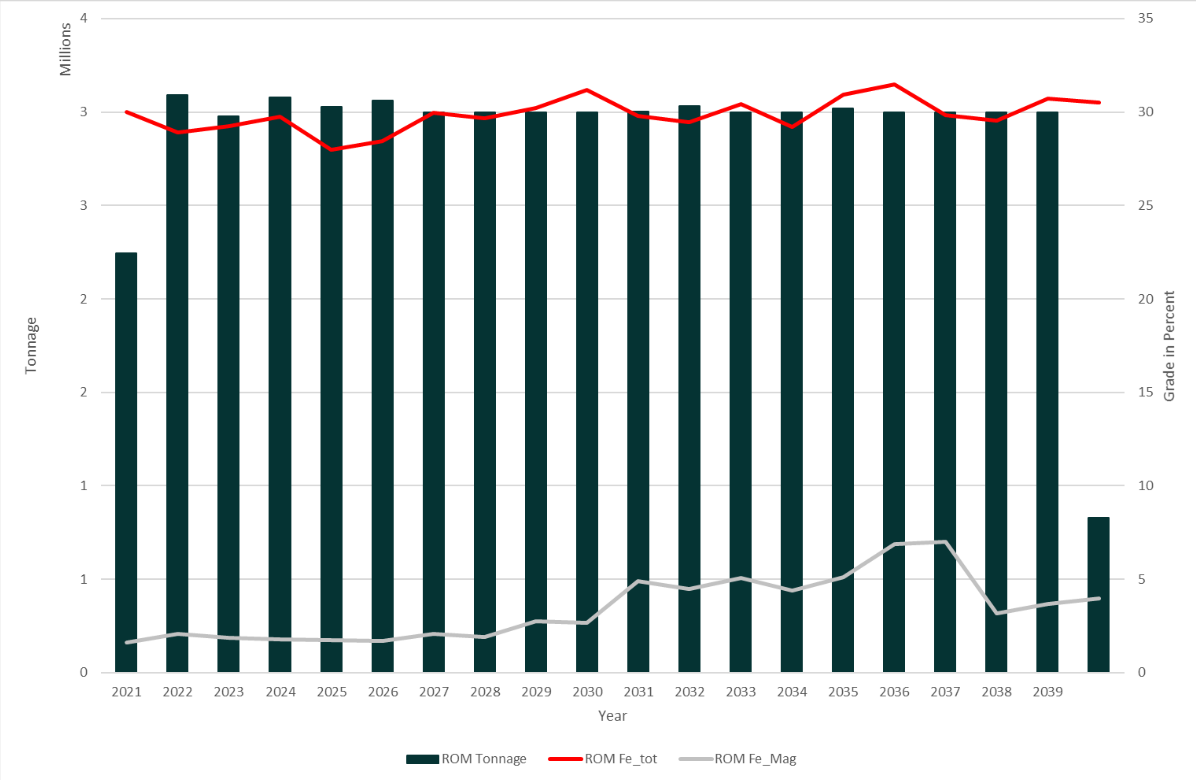
The schedule of development has been established to allow for flexibility within the SLOS zones, for unforeseen complications / considerations (including a delay in the Open-Pit schedule), with development proceeding production by at least a year.

A total of 43,213 linear m of development (of all profile types) has been considered with a total of 2018 vertical m of 3 m diameter raise.

Production levels from underground can be maintained at 3 Mt per year sourced from the SLC zones, with effectively no additional development, until 2025. At that point a highly productive development campaign is envisaged, utilising two jumbos achieving no less than 350 linear m per month (in all profile types) in 2026 to fully develop SLC091. It is anticipated that this would be achieved using a contractor, while the mine consolidates its own development resources during the same period, for the years that follow.

As a result of the work outlined in Section 4.0, the underground production schedule presented in this study considers a total of 57.4 Mt at 29.83% Fe_Tot (Measured and Indicated only), extracted over 20 years, with the first and last year's being partial years. The schedule of Mineral Reserves from underground only is shown in Figure 5.2.

Figure 5.2: Underground LoM Schedule and Grade



6.0 INFRASTRUCTURE

To serve its mining operations in the Dunderland Valley Rana Gruber maintains offices, a warehouse and workshops at Storforshei. Several additional workshops are available at the mine site at Ørtfjellet situated on the surface (close to crusher 340) and underground. Also underground, Rana Gruber maintains a canteen and offices for the shift leaders.

Primary infrastructure at the mine site is the main ore silo, crusher 340 (at the surface) and the crusher underground on level L123.

The facilities to load the ore onto railway wagons are situated underground in a tunnel that passes just underneath the main storage silo. From the main storage silo, the ore is loaded onto railway wagons and subsequently transported to the process plant situated in the city of Mo i Rana. Two tapping shoots can be used to control the gravitational flow of broken ore during loading of the wagons while the train is moving with a constant speed underneath during the whole loading cycle. The train ride to the process plant takes about two hours (tour-retour).

The process plant is situated in the city of Mo i Rana approx. 27 km distance to the mine. It facilitates the train discharge station and silo, two autogenous mills and a 2-stage magnetic separation facility. In addition, the Gullsmedvika property houses warehouses, workshops, Rana Gruber's inhouse raw material laboratory and areas for stockpiles.

With its strategic position at Gullsmedvika, close to the shore of the Rana Fjord, Rana Gruber AS has access to its own harbour serving Panamax sized vessels.

7.0 ECONOMIC ANALYSIS

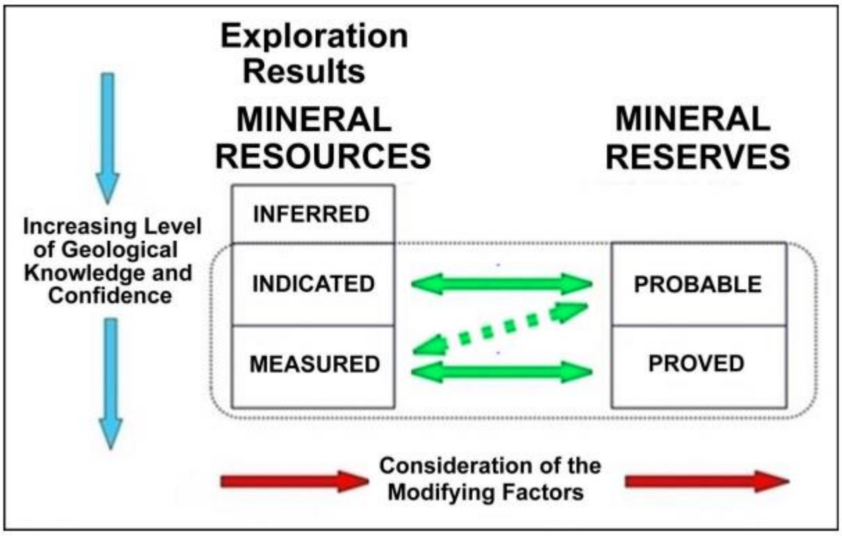
Micon has not performed an independent economic analysis of the Rana Gruber Mine. All cost parameters used to define Mineral Reserves have been supplied by Rana Gruber including capital and operating costs. The cost inputs supplied to Micon are considered appropriate to the scale and style of operation.

The ongoing internal PFS will include detailed cash flow modelling, that should consider the optimum mining method to be selected for some of the new deposits, which could be mined by either open-pit or underground methods. In addition, Micon is aware that Rana Gruber are assessing the cost of becoming an owner-operated mine.

8.0 ESTIMATION AND REPORTING OF MINERAL RESERVES

The Pan-European Reserves and Resources Reporting Committee (PERC) prescribes a reporting standard which sets out the minimum required standards and additional recommendations and guidelines for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves. According to the PERC Reporting Standard Mineral Resources and Mineral Reserves are defined as illustrated in Figure 8.1. This shows a framework for classifying tonnage and grade or quality estimates to reflect different levels of geological confidence, confidence in the Modifying factors, and different degrees of technical and economic evaluation.

Figure 8.1: The General Relationship between Exploration Results, Mineral Resources and Mineral Reserves



Source: PERC Reporting Standard (2021)

PERC quotes the CRISCO definitions of Mineral Reserves as outlined below:

- A 'Mineral Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level (as appropriate) and include application of Modifying Factors. Such studies demonstrate that, at the time of reporting extraction could reasonably be justified.
- The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.
- A 'Probable Mineral Reserve' is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.
- A 'Proved Mineral Reserve' is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the Modifying Factors.

8.1 ESTIMATION AND MODELLING TECHNIQUES

Rana Gruber are currently extracting iron ore from the Ørtfjell deposit where reserves in both the underground and open-pit operations will be depleted by 2025. As such the Mineral Reserves that Micon has modelled and scheduled are required to be operational by this time.

The Mineral Reserve statement is supported by a Mineral Resource estimate and a mine plan based on open-pit and underground mine designs, and production schedules. Mineral Resource depletion within Kvannevann East and the Nordmalm open-pit has been applied from the effective date of the resource estimate up to the beginning of the production schedule to account for the iron ore that has been mined since April 2021.

Micon has included dilution and losses when modelling Mineral Reserves. Conversion of Mineral Resources to Mineral Reserves has taken into consideration the application of modifying factors. Since Rana Gruber is an operating mine the combined LoM schedule reported herein is considered to be an acceptable equivalent to a PFS.

Rana Gruber controls legally enforceable Mineral title over the Mineral Reserves at the time of determination of the estimation.

8.1.1 Cut-Off Grade

A cut-off for inclusion Reserves of >25%Fe_Tot was imposed on the wireframes. This cut-off point was defined by Rana Gruber.

With the exception of (underground) waste development wireframes, once all mining factors were applied to any wireframe, if it returned a grade of <25%Fe_Tot, it was interrogated visually to see if could be improved to return above cut-off while still representing a feasible mining shape. If this was not possible, it was excluded from consideration, along with its associated development.

8.2 REPORTING

Only Measured and Indicated Mineral Resources were used to estimate Mineral Reserves in accordance with PERC reporting guidelines. One exception to this is at the Stensundtjern deposit, where the open-pit mine design and schedule includes a small proportion of Inferred Mineral Resources. This was necessary to create access to other areas of the deposit. The Inferred Mineral Resource category is included in the open-pit mine design, mine planning as diluting material to the Mineral Reserves and has no significant effect on the results of the Technical Study.

Considering some of the deficiencies noted in the geological block model and the lack of a PFS to support the Mineral Reserve estimate, all of the Measured and Indicated Mineral Resources have been classified as Probable Reserves. However, as sub-level 123 is currently being exploited this can be classified as a Proved Reserve, totalling 15.5 Mt.

The Rana Gruber Mineral Reserves dated 9th April 2021 are shown in Table 8.1.

Table 8.1: Rana Gruber Mineral Reserves, 9th April 2021 (PERC, 2017)

Deposit	Deposit Zone	Mining Method	Classification	Tonnage (Mt)	Density (g/cm³)	Fe_Tot (%)	Fe_Mag (%)	S (%)	MnO(%)
Ørtfjell	*Kvannevann 123 Level*	*Sub-Level Caving*	*Proved*	*15.5*	*3.4*	*27.9*	*1.8*	*0.01*	*0.3*
123 Level Sub-Level Cave M Total				***15.5***	***3.37***	***27.9***	***1.8***	***0.01***	***0.27***
Ørtfjell	Kvannevann All	Sub-Level Caving	Probable	29.7	3.4	29.2	1.9	0.01	0.3
Sub-Level Cave M+I Total				**29.7**	**3.36**	**29.2**	**1.9**	**0.01**	**0.30**
Ørtfjell	Eriksmalmen	Sub-Level Open Stoping	Probable	10.2	3.4	30.2	5.1	0.01	0.4
	Kvannevann E		Probable	3.5	3.4	29.4	1.7	0.00	0.7
	Kvannevann W		Probable	12.3	3.4	30.8	6.3	0.02	0.1
Open Stope M+I Total				**26.0**	**3.40**	**30.4**	**5.2**	**0.02**	**0.30**
Ørtfjell	Underground All	Development	Probable	1.7	3.4	31.3	4.0	0.02	0.3
Development M+I Total				**1.7**	**3.41**	**31.3**	**4.0**	**0.02**	**0.33**
Ørtfjell	Nordmalm	Open-pit	Probable	1.3	3.5	33.5	11.3	0.01	0.1
	Kvannevann E		Probable	5.7	3.4	29.8	1.3	0.01	0.8
Stensundtjern	East		Probable	17.4	3.4	32.8	8.7	0.04	0.4
	West		Probable	12.0	3.5	36.2	8.3	0.06	0.5
Open-Pit M+I Total				**36.5**	**3.43**	**33.5**	**7.5**	**0.04**	**0.48**
Total Proved and Probable	**All**	-	**Probable**	**93.8**	**3.40**	**31.2**	**5.0**	**0.03**	**0.37**

9.0 QUALIFICATION OF COMPETENT PERSON (S) AND OTHER KEY TECHNICAL STAFF. DATE AND SIGNATURE PAGE

CERTIFICATE OF COMPETENT PERSON LIZ DE KLERK

As the Competent Person responsible for the information on which the Public Report entitled "Competent Persons Report on the Mineral Reserves of the Dunderland Valley Iron Ore Project, Norway" is based, I hereby state:

1. My name is Liz de Klerk.
2. I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Co Limited, Suite 10, Keswick Hall, Norwich, United Kingdom. tel. 0044(1603) 501 501, e-mail ldeklerk@micon-international.co.uk .
3. I am a member of the South African Institute of Mining and Metallurgy (SAIMM) and a Fellow of the Geological Society of Africa and a registered Professional Natural Scientist (Pr.Sci.Nat. 400090/08).
4. I hold the following academic qualifications:

B.Sc. Geology	University of Leicester, United Kingdom, 2000;
M.Sc. Exploration Geology	University of Rhodes, Grahamstown, South Africa, 2002;

5. I have worked as a geologist in the minerals industry for over 18 years in the mining industry in Africa, Europe, Russia and United Kingdom.
6. I meet the requirements of a 'Competent Person' as defined explicitly in the PERC Reporting Standard (2021).
7. I have reviewed the geology, mineral resources, mineral reserves and site operations.
8. I visited the property that is the subject of this Public Report from 18th to 19th October 2021.
9. I am responsible for the preparation or supervision of preparation of all sections of this Public Report and the Mineral Reserves.
10. I am not aware of any material fact or material change concerning the subject matter of the Public Report that is not reflected in the Public Report, the omission of which would make the Public Report misleading.
11. I declare that this Public Report appropriately reflects the Competent Person's view.
12. I am independent of Rana Gruber AS.
13. I confirm that I have read all the relevant sections of the PERC Reporting Standard (2021). The Public Report has been prepared under the requirements of the PERC Reporting Standard.
14. I do not have, nor do I expect to receive, a direct or indirect interest in the Dunderland Valley Iron Ore Project of Rana Gruber AS.
15. I have no conflicts of interest in respect of Rana Gruber AS or the Dunderland Valley Iron Ore Project.
16. At the effective date of the Public Report, to the best of my knowledge, information and belief, the Public Report contains all scientific and technical information that is required to be disclosed in order to make the Public Report not misleading.

Dated at Norwich, United Kingdom, on 30th November 2021

Liz de Klerk, M.Sc., Pr.Sci.Nat., SAIMM (707850)

CERTIFICATE OF COMPETENT PERSON MATHIEU GOSSELIN

As the Competent Person responsible for the information on which the Public Report entitled "Competent Persons Report on the Mineral Reserves of the Dunderland Valley Iron Ore Project, Norway" is based, I hereby state:

1. My name is Mathieu Gosselin.
2. I am CEO, President and Industry Expert-Mining with Gosselin Mining AB with an office situated at Industrivägen 23, Solna, Sweden 171 48; and carried out this assignment for, Micon International Co Limited, Suite 10, Keswick Hall, Norwich, United Kingdom. tel. 0044(1603) 501 501, e-mail mathieu@gosselinmining.com .
3. I am registered a member of Ordre des ingénieurs du Québec.
4. I hold the following academic qualifications:

   B. Eng. Mining McGill University, Montreal Quebec, Canada, 2004.
5. I have 17 years' experience as a mining engineer consultant in mineral project assessment, specialising in mineral reserve estimation. I have experience relevant to mineral reserve estimation for industrial minerals, phosphate, gold, coal and graphite deposits. I have sufficient experience in the modifying factors, mining methods, mine life and production rates, mineral reserve and mining costs estimating techniques that are relevant to the deposit under consideration.
6. I meet the requirements of a 'Competent Person' as defined explicitly in the PERC Reporting Standard (2021).
7. I have reviewed the open-pit mining data, open-pit mineral reserves, drill core and site operations.
8. I visited the property that is the subject of this Public Report from 18th to 19th October 2021.
9. I am responsible for the preparation or supervision of preparation of Section 3.0, 5.0 and 8.0 of this Public Report.
10. I am not aware of any material fact or material change concerning the subject matter of the Public Report that is not reflected in the Public Report, the omission of which would make the Public Report misleading.
11. I declare that this Public Report appropriately reflects the Competent Person's view.
12. I am independent of Rana Gruber AS.
13. I confirm that I have read all the relevant sections of the PERC Reporting Standard (2021). The Public Report has been prepared under the requirements of the PERC Reporting Standard.
14. I do not have, nor do I expect to receive, a direct or indirect interest in the Dunderland Valley Iron Ore Project of Rana Gruber AS.
15. I have no conflicts of interest in respect of Rana Gruber AS or the Dunderland Valley Iron Ore Project.
16. At the effective date of the Public Report, to the best of my knowledge, information and belief, the Public Report contains all scientific and technical information that is required to be disclosed in order to make the Public Report not misleading.

Dated at Solna, Sweden, on 30th November 2021

Mathieu Gosselin, B.Eng.

CERTIFICATE OF COMPETENT PERSON JOSEPH BURKE

As the Competent Person responsible for the information on which the Public Report entitled "Competent Persons Report on the Mineral Reserves of the Dunderland Valley Iron Ore Project, Norway" is based, I hereby state:

1. My name is Joseph Burke.
2. I am employed as an Associate Senior Geotechnical Engineer by, and carried out this assignment for, Micon International Co Limited, Suite 10, Keswick Hall, Norwich, United Kingdom. tel. 0044(1603) 501 501, e-mail joe@avocageotec.com .
3. I am fellow of the Southern African Institute of Mining and Metallurgy (SAIMM) and a member of the following: International Society of Rock Mechanics, Irish Mining and Quarrying Society, Geoscience Ireland – Expert Panel.
4. I hold the following academic qualifications:

Mining Diploma	Athlone Institute of Technology, Shannon, Ireland, 1971.
Diploma in Eng. Geol.	British Institute of Engineering Technology, London, UK, 1976.
Rock Mechanics Certification	South African Chamber of mines, South Africa, 1985.
Graduate Diploma	University of Witwatersrand, Johannesburg, South Africa, 1992.

5. I have worked as a geotechnical engineer in the minerals industry for over 51 years in the mining industry in Africa, India, Central Asia, Australia, South America, Europe and United Kingdom.
6. I meet the requirements of a 'Competent Person' as defined explicitly in the PERC Reporting Standard (2021).
7. I have reviewed the geotechnical data, drill core and site operations.
8. I visited the property that is the subject of this Public Report from 18th to 19th October 2021.
9. I am responsible for the preparation or supervision of preparation of Section 4.0, 5.0 and 8.0 of this Public Report.
10. I am not aware of any material fact or material change concerning the subject matter of the Public Report that is not reflected in the Public Report, the omission of which would make the Public Report misleading.
11. I declare that this Public Report appropriately reflects the Competent Person's view.
12. I am independent of Rana Gruber AS.
13. I confirm that I have read all the relevant sections of the PERC Reporting Standard (2021). The Public Report has been prepared under the requirements of the PERC Reporting Standard.
14. I do not have, nor do I expect to receive, a direct or indirect interest in the Dunderland Valley Iron Ore Project of Rana Gruber AS.
15. I have no conflicts of interest in respect of Rana Gruber AS or the Dunderland Valley Iron Ore Project.
16. At the effective date of the Public Report, to the best of my knowledge, information and belief, the Public Report contains all scientific and technical information that is required to be disclosed in order to make the Public Report not misleading.

Dated at Dublin, Ireland, on 30th November 2021

Joseph Burke, (SAIMM)

10.0 DATE AND SIGNATURE PAGE

Signed on behalf of Micon International Co Limited

Liz de Klerk. M.Sc., Pr.Sci.Nat., SAIMM (707850) (CP)
Managing Director & Senior Geologist
Micon International Co Limited

Effective Date 1st April 2021
Date 30th November 2021

11.0 REFERENCES

DIRMIN 2019; Harde fakta om mineralnæringen, Mineralstatistkk 2019.

Independent Mineral Resource Estimate for the Rana Gruber AS Iron Ore Deposits, Norway, Baker Geological Services Ltd, April 2021.

Pan-European Reserves and Resources Reporting Committee (PERC) Standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves Reporting Standard (2021).

12.0 APPENDIX 1 - TABLE 1

Section References	PERC REPORTING STANDARD - TABLE 1				Section in the CPR where this is located or why it is considered not relevant to the project (*"if not, why not"*).
	Exploration Results	**Mineral Resources**	**Mineral Reserves**		
Section 1: Project Outline					
	1.0 Introduction - General				
Section 1: Project Outline / 1.0	(i)	The terms of reference or scope of work.			Section 1.0. The scope of work was to provide Rana Gruber AS with both underground and open-pit mine designs, Mineral Reserve estimation and mine scheduling for the Dunderland Valley Iron Ore Project, Norway. Deliverable is a Public Report in accordance with PERC which will form part of the prospectus to be used for listing on the Oslo Stock Exchange..
	(ii)	The Competent Person's relationship to the issuer of the report, if any.			Section 1.4.1 The Competent Persons are independent from Rana Gruber, and listed below: • Liz de Klerk, M.Sc., SAIMM, Pr.Sci.Nat., Senior Geologist and Project Manager and Managing Director of Micon's UK office; • Mathieu Gosselin, B. Eng., Senior Micon Associate Mining Engineer and CEO of Gosselin Mining; • Joe Burke, Senior Micon Associate Geotechnical Engineer and employed by Lisheen Technical and Mining Services.
	(iii)	A statement for whom the report was prepared; whether it was intended as a full or partial evaluation or other purpose, work conducted, effective date of report, and remaining work.			Section 1.1. Micon was requested by Rana Gruber AS to prepare an independent Technical Report on the Mineral Reserves of the Dunderland Valley Iron Ore Project, Norway. The effective date of the Mineral Reserves stated in this report is 30th April 2021. No further work is outstanding to complete the Scope of Work.
	(iv)	Sources of information and data contained in the report or used in its preparation, with citations if applicable, and a list of references.			Data was obtained from mine personnel during the site visit and subsequent communications. Section 11.0 References • DIRMIN 2019; Harde fakta om mineralnæringen, Mineralstatistkk 2019. • Pan-European Reserves and Resources Reporting Committee (PERC) Standard for the Public Reporting of Exploration

			Results, Mineral Resources and Mineral Reserves Reporting Standard (2021). • Independent Mineral Resource Estimate for the Rana Gruber AS Iron Ore Deposits, Norway, Baker Geological Services Ltd, April 2021.
	(v)	A title page and a table of contents that includes figures and tables.	The report includes a title page and a table of contents that includes figures and tables. These are presented before Section 1.0 Introduction
	(vi)	An Executive Summary, which briefly summarises important information in the public report, including property description and ownership, geology and mineralisation, the status of exploration, development and operations, Mineral Resource and Mineral Reserve estimates, and the Competent Person's conclusions and recommendations. If Inferred Mineral Resources are used, a summary valuation with and if practical without inclusion of such Inferred Mineral Resources. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the project.	An Executive Summary has not been included in the Public Report as it is a short Report.
	(vii)	A declaration from the Competent Person, stating whether "the declaration has been made in terms of the guidelines of the PERC Reporting Standard".	The Competent Persons from the Project Team according to the definitions listed in PERC are Liz de Klerk, Mathieu Gosselin and Joe Burke their declarations are included in their certificates in Section 9.0.
	(viii)	Diagrams, maps, plans, sections and illustrations, which are dated, legible and prepared at an appropriate scale to distinguish important features. Maps including a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north. Reference to a location or index map and more detailed maps showing all important features described in the text, including all relevant cadastral and other infrastructure features.	All maps, have been provided with appropriate scale bars, compass directions and annotations and legends were required.
	(ix)	The units of measure, currency and relevant exchange rates.	All units of measurement and currency have been provided where relevant.
	(x)	The details of the personal inspection on the property by each Competent Person or, if applicable, the reason why a personal inspection has not been completed.	Section 1.4.1 A site visit to the Project was completed from 17th October to 20th October 2021 by the Competent Persons: Liz de Klerk, Mathieu Gosselin and Joe Burke, and mining engineer Tom Doidge-Harrison.
	(xi)	If the Competent Person is relying on a report, opinion, or statement of another expert who is not a Competent Person, then a disclosure of the date, title, and author of the report, opinion, or statement, the qualifications of the other expert, the reason for the Competent Person to rely on the other expert, any significant risks and any steps the Competent Person took to verify the information provided.	The other contributor to the Technical Report on Mineral Reserves is Tom Doidge-Harrison, a qualified mining engineer with 18 years industry experience.
		1.1 Property Description	
1.1	(i)	Brief description of the scope of project (i.e. whether in preliminary sampling, advanced exploration, scoping, pre-feasibility, or feasibility phase, Life of Mine plan for an ongoing mining operation or closure).	Section 1.0 The Scope of Work was to provide Rana Gruber AS with both underground and open-pit mine designs, Mineral Reserve estimation and mine scheduling for the Dunderland Valley Iron Ore Project, Norway.

Section 1: Project Outline

	(ii)	Describe (noting any conditions that may affect possible prospecting/mining activities) topography, elevation, drainage, fauna and flora, the means and ease of access to the property, the proximity of the property to a population centre, and the nature of transport, the climate, known associated climatic risks and the length of the operating season and to the extent relevant to the mineral project, the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites.	Mo i Rana comprises a continental subarctic climate with a short, but warm summer and a long and cold winter. Average annual temperature is around 8º, average sea temp is 6º. Average rainfall is 119 mm/month, the wettest month is October with 186 mm average rainfall. Rana municipality is located just about south of the Arctic Circle. The highest peaks in the region reach altitudes between 1,300 m to 1,800 m. The Rana municipality has a long history of mining dating back several hundreds of years. The region has been mined for silver, pyrite, base metals, gold, iron and talc. This includes the iron ore operations in the region and Rana Gruber AS's operations in the Dunderland Valley.
	(iii)	Specify the details of the personal inspection on the property by each CP or, if applicable, the reason why a personal inspection has not been completed.	Section 1.4.1 A site visit to the Project was completed from 17th October to 20th October 2021 by the Competent Persons: Liz de Klerk (geologist and project manager), Mathieu Gosselin (open-pit reserves and mine schedule) and Joe Burke (geotechnical engineer and underground CP) and mining engineer Tom Doidge-Harrison (underground reserves and mine schedule).

1.2 Location

1.2	(i)	Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.).			Section 1.1 The iron ore deposits in the Dunderland Valley are situated about 27 km northeast of the town Mo i Rana and approximately 15 km south of the Arctic Circle. Figure 1.1. Central property coordinates: 66.24.19.65 N / 14.32.11.05 E
	(ii)	Country Profile: describe information pertaining to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context etc. Assess, at a high level, relevant technical, environmental, social, economic, political and other key risks.			Norway is a northern European country with a land area of approximately 307,442 km^2. The landscape is dominated by rugged mountains and coastline. Norway is a politically stable developed country with an established mining industry. The Norwegian mineral industry is typically divided according to which commodity is produced. In the period between 2016 and 2019 about 2.2 Mt of metallic ore were sold per year. During these years only two companies accounted for the production of metallic ores in Norway, these were Rana Gruber AS and Titania AS.
	(iii)	Provide a general topocadastral map	Provide a Topo-cadastral map in sufficient detail to support the assessment of eventual economics. State the known associated climatic risks.	Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.	The topographic survey used for Mineral Reserve estimation was provided by Rana Gruber and dated 31st March 2021. The survey ranges from 1 m to 5 m contours with mined out open-pits being supplemented by digitised paper maps. All surface and underground surveys are carried out by internal Rana Gruber employees.

1.3 Adjacent Properties

1.3	(i)	Discuss details of relevant adjacent properties If adjacent or nearby properties have an important bearing on the report, then their location and common mineralized structures should be included on the maps. Reference all information used from other sources.	The Rana Gruber mine is situated in the Dunderland Valley which is known for iron ore deposits and has been mined since the 1950s. There are currently no adjacent exploration or mining properties.

1.4 History

1.4	(i)	State historical background to the project and adjacent areas concerned, including known results of previous exploration and mining activities (type, amount, quantity and development work), previous ownership and changes thereto.	Section 1.2. Exploration commenced at the Project in 1949 with the creation of an iron ore mining operation supported by processing plant and port facility. Records show that since the 1950's, over 138 Mt of iron ore has been mined and Rana Gruber now produce and sell a range of haematite and magnetite concentrates to international markets. Until April 2021 Rana Gruber relied on internal technical studies to develop the Mineral Resources for the Project. The first independent Mineral Resources estimate was completed in April 2021 by Baker Geological Services Ltd as part of the study the geology and the resource model were updated.
	(ii)	Present details of previous successes or failures with reasons why the project may now be considered potentially economic.	The Rana Gruber iron ore mine has been in production since 1964.
	(iii)	Discuss known or existing historical Mineral Resource estimates and performance statistics on actual production for past and current operations.	Section 2.2 Baker Geological Services Ltd produced the first Independent Mineral Resource Estimate for the Rana Gruber AS Iron Ore Deposits, Norway, in April 2021
	(iv)	Discuss known or existing historical Mineral Reserve estimates and performance statistics on actual production for past and current operations.	The Micon Mineral Reserves are the first publicly reported Mineral Reserves for Rana Gruber.

1.5 Legal Aspects and Permitting

1.5	(i)	A statement from the Competent Person on the confirmation of the legal tenure, including a description of (the following):	The exploration, exploitation and operating licences have been confirmed by the CP. They are listed in detail in the Howard Baker report dated April 2021. All but one of the exploration licences are due to expire in 2026 and 2027. Extraction licences are held for Stensundtjern and Ørtfjell and are required to be renewed every 10 years.
	(ii)	Discuss the nature of the issuer's rights (e.g. prospecting and/or mining) and the right to use the surface of the properties to which these rights relate. Disclose the date of expiry and other relevant details.	Section 1.1 Rana Gruber hold a combination of exploration and extraction rights across the Dunderland Valley, totalling 5,200 acres

	(iii)	Present the principal terms and conditions of all existing agreements, and details of those still to be obtained, (such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorisations).	of land. Rana Gruber has no joint ventures, partnerships or royalty agreements with third parties in the Dunderland Valley concerning the extraction of mineral resources.
	(iv)	Present the security of the tenure held at the time of reporting or that is reasonably expected to be granted in the future along with any known impediments to obtaining the right to operate in the area. State details of applications that have been made. See Clause 8.1 for declaration of a Mineral Reserve.	
	(v)	Provide a statement of any legal proceedings for example; land claims, that may have an influence on the rights to prospect or mine for minerals, or an appropriate negative statement.	
	(vi)	Provide a statement relating to governmental/statutory requirements and permits as may be required, have been applied for, approved or can be reasonably be expected to be obtained. Provide a review of risks that permits will not be received as expected and impact of delays to the project.	
		1.6 Royalties	
1.6	(i)	Describe the royalties that are payable in respect of each property.	Rana Gruber has no joint ventures, partnerships or royalty agreements with third parties in the Dunderland Valley concerning the extraction of mineral resources. The area north of the Rana River in the Dunderland Valley is shown on official maps as a pasture area for reindeer herding (summer, autumn and winter pasture). In the 1980's, Rana Gruber set forth an agreement with the local reindeer organisations (Reinbeitedistrikt) and paid a compensation to the organisation covering all future obstruction and loss of these pasture rights. The agreement is still in place today and valid.
		1.7 Liabilities	
1.7	(i)	Describe any liabilities, including rehabilitation guarantees that are pertinent to the project. Provide a description of the rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.	Section 1.1 Micon is not aware of any liabilities for the Dunderland Valley Iron Ore Project

Section 2: Geological Setting, Deposit, Mineralisation				
	2.1 Geological Setting, Deposit Type and Mineralisation Style			
Section 2: Geological Setting, Deposit, Mineralisation	2.1	(i)	Describe the regional geology.	Section 2.0 The Dunderland Valley iron ore deposit is hosted in the Neoproterozoic-aged Ørtfjell Group Banded Iron Formation (BIF). The country rock is dominated by mica schists that occur in a sequence of dolomitic and calcitic marble units. Both the mica schists and BIF are strongly deformed with isoclinal folds and crenulations. Detailed descriptions of the regional geology can be found in the April 2021 Baker Geological Services Mineral Resource report.
		(ii)	Describe the project geology including mineral deposit type, geological setting and style of mineralisation.	Section 2.0 The deposit at Kvannevann is a massive-scale isoclinal fold that can be seen from the morphology of the block model. The deposit type is a metamorphosed Banded Iron Formation (BIF). Iron oxide mineralisation is dominated by sandy and flaky haematite (Fe_2O_3) with lesser magnetite (Fe_3O_4). Due to the strong tectonic structure the deposits have a defined cleavage often populated with flaky haematite, known as specularite. The banded iron mineralisation is interbedded with fine-grained quartz and carbonates. Detailed descriptions of the property geology can be found in the April 2021 Baker Geological Services Mineral Resource report.
		(iii)	Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration program is planned. Describe the inferences made from this model.	Banded Iron Formations (BIF) host the economic mineralisation in the Dunderland Valley. The deposits have undergone four major tectonic events resulting in small and large scale fold structures. Detailed descriptions of the exploration and sampling can be found in the April 2021 Baker Geological Services Mineral Resource report.
		(iv)	Discuss data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the project.	Section 2.1. A total of 1,518 diamond drill holes have been completed for a total of 206,309 m of drill core. The core yard was visited by the CP during the site visit. The majority of drilling, both historical and modern, has been conducted on a 50 m grid spacing. Detailed descriptions of the mineralogy can be found in the April 2021 Baker Geological Services Mineral Resource report.
		(v)	Discuss the significant minerals present in the deposit, their frequency, size and other characteristics. These include minor and gangue minerals where these will have an effect on the processing steps. Indicate the variability of each important mineral within the mineral deposit.	Section 2.0 Iron oxide mineralisation is dominated by sandy and flaky haematite (Fe_2O_3) with lesser magnetite (Fe_3O_4). Due to the strong tectonic structure the deposits have a defined cleavage often populated with flaky haematite, known as specularite. The banded iron mineralisation is interbedded with fine-grained quartz and carbonates. Detailed descriptions of the mineralogy can be found in the April 2021 Baker Geological Services Mineral Resource report.
		(vi)	Describe the significant mineralised zones encountered on the property, including a summary of the surrounding rock types, relevant geological controls, and the length, width, depth, and continuity of the mineralisation, together with a description of the type, character, and distribution of the mineralisation	

	(vii)	Confirm that reliable geological models and / or maps and cross sections that support interpretations exist.	Micon was provided with supporting geological documentation including drill hole logs, wireframes and block models for the Rana Gruber iron ore deposits.

Section 3: Exploration and Drilling, Sampling Techniques and Data			
		3.1 Exploration	
3.1	(i)	Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e. geological observations, remote sensing results, stratigraphy, lithology, structure, alteration, mineralisation, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples etc.). Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location etc.	Geological data is comprised of diamond drilling which was logged, sampled and assayed. This is supported by a 2012 airborne geophysical survey conducted by the Norwegian Geological Unit (NGU).
	(ii)	Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and verification of these data or the database. This should describe the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes. It is assumed that data are stored digitally but hand-printed tables with well organized data and information may also constitute a database.	Current and historical drill hole logs and assay were used to estimate Mineral Resources. Baker Geological Services conducted a verification programme. Existing pulps were sent to ALS laboratory (Scandinavia AB) for XRF analysis. No bias or uncorrelated results were obtained from this process. A density testwork study was also implemented. Again comparison of old and new results were comparable. Detailed descriptions of the data verification can be found in the April 2021 Baker Geological Services Mineral Resource report.
	(iii)	Acknowledge and appraise data from other parties and reference all data and information used from other sources.	Section 2.1 Detailed descriptions of the exploration and sampling can be found in the April 2021 Baker Geological Services Mineral Resource report.
	(iv)	Clearly distinguish between data / information from the property under discussion and that derived from surrounding properties	All data used is from the Rana Gruber property.
	(v)	Describe the survey methods, techniques and expected accuracies of data, including the methods for downhole surveying of drillholes. Specify the grid system used.	In 1999 Rana Gruber introduced a Total station for surveying, utilising a set of control points set out by the national mapping authorities. GPS/GNSS instruments were introduced in 2008 and replaced the Total Station. Since 2010 downhole surveys were taken using a Devico Deviflex tool owned by Rana Gruber.
	(vi)	Discuss whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the estimation procedure(s) and classifications applied.	The average drill hole spacing for both historical and recent drilling is along 50 m section lines with fan drilling at the collar locations providing variable spacing on the section. Horizontal drill hole spacing at Ørtfjell is on average 50 m but there are gaps in the western part of the deposit. The structural setting of the deposit is well understood

Section 3: Exploration and Drilling, Sampling Techniques and Data

			due to drilling and detailed mapping by the NGU and the sample spacing is considered sufficient for Mineral Resource estimation.
	(vii)	Present representative models and / or maps and cross sections or other two or three dimensional illustrations of results, showing location of samples, accurate drill-hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.	Refer to the Baker Geological Services Mineral Resource Report (April 2021)
	(viii)	Report the relationships between mineralisation widths and intercept lengths are particularly important, the geometry of the mineralisation with respect to the drill hole angle. If it is not known and only the down-hole lengths are reported, confirm it with a clear statement to this effect (e.g. 'down-hole length, true width not known').	The raw drill hole database was assessed to determine the average length of the sample within each domain modelled. The results show that the average sample length varies from 3 m to 13 m, which is atypical in general and is a reflection of the various drilling campaigns throughout the project history. (excerpt from the BGS report, April 2021)

3.2 Drilling Techniques

3.2	(i)	Present the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc.) and details (e.g. 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.).	Section 2.1 Rana Gruber have drilled 237 diamond drill holes over the project area including twin drilling of historical holes. The recent and historical core was visited by Micon whilst on site.
	(ii)	Describe whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, technical studies, mining studies and metallurgical studies.	Geotechnical logging to NGI-Q standards
	(iii)	Describe whether logging is qualitative or quantitative in nature; indicate if core photography. (or costean, channel, etc.) was undertaken	Core photographs are taken of all drill core. Results are both qualitative and quantitative.
	(iv)	Present the total length and percentage of the relevant intersections logged.	Drill hole data is logged on a centimetre basis. Detailed descriptions of the core logging can be found in the April 2021 Baker Geological Services Mineral Resource report.
	(v)	Discuss the results of any downhole surveys of the drill holes.	The drill hole database includes the results of the downhole surveys.

3.3 Sample method, collection, capture and storage

Section 3: Exploration and Drilling, Sampling Techniques and Data	3.3	(i)	Describe the nature and quality of sampling (e.g. 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.	Section 2.1 Detailed descriptions of the sampling can be found in the April 2021 Baker Geological Services Mineral Resource report. Drill core is sampled on 7 m intervals taking into consideration lithological boundaries. Core is split in half longitudinally using a diamond blade core cutter.
		(ii)	Describe the sampling processes, including sub-sampling stages to maximize representivity of samples. This should include whether sample sizes are appropriate to the grain size of the material being sampled. Indicate whether sample compositing has been applied.	

	(iii)	Appropriately describe each data set (e.g. geology, grade, density, quality, diamond breakage, geo-metallurgical characteristics etc.), sample type, sample-size selection and collection methods	
	(iv)	Report the geometry of the mineralisation with respect to the drill-hole angle. State whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the Mineral deposit type. State if the intersection angle is not known and only the downhole lengths are reported.	
	(v)	Describe retention policy and storage of physical samples (e.g. core, sample reject, etc.)	
	(vi)	Describe the 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 and 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.	
	(vii)	If a drill-core sample is taken, state whether it was split or sawn and whether quarter, half or full core was submitted for analysis. If a non-core sample, state whether the sample was riffled, tube sampled, rotary split etc. and whether it was sampled wet or dry. the impact of water table or flow rates on recovery and introduction of sampling biases or contamination from above. Discuss the impact of variable hole diameters, e.g., by the use of a calliper tool.	
	(viii)	If a drill-core sample is taken, sufficient information should be supplied to assess the effects of core loss. Occasionally, only total core recovery is mentioned but at the same time the mineralized parts are designated as poor quality. This type of reporting is against the main principles of Transparency and Materiality. Heavy core losses throughout an ore body intersection can seriously undermine the confidence in a resource estimate. It is important to determine whether a relationship exists between grade and recovery (either positive or negative) to assess the potential for grade bias. In addition, it is important to state the method used to determine the core recovery: Total Core Recovery (TCR), Solid Core Recovery (SCR) and Rock Quality Designation (RQD).	

3.4 Sample Preparation and Analysis

3.4	(i)	Identify the laboratory(s) and state the accreditation status and Registration Number of the laboratory or provide a statement that the laboratories are not accredited. Record the steps taken by the Competent Person to ensure the results from a non-accredited laboratory are of an acceptable quality.	Section 2.1 Core is prepared and assayed on site at Rana Gruber's laboratory which uses internationally recognised procedures for analysing total iron content sulphur and manganese (MnO).
	(ii)	Identify the analytical method. Discuss the nature, quality and appropriateness of the assaying and laboratory processes and procedures used and whether the technique is considered partial or total.	A data verification project was undertaken by Rana Gruber and a number of pulps from Ørtfjell (432) and Stensundtjern (100) were sent to ALS Scandinavia AB for XRF analysis. The results showed a good correlation between the two laboratories.
	(iii)	Describe the process and method used for sample preparation, sub-sampling and size reduction, and likelihood of inadequate or non representative samples (i.e. improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.)	Detailed descriptions of the sampling can be found in the April 2021 Baker Geological Services Mineral Resource report.

Section 3: Exploration and Drilling, Sampling Techniques and Data

		3.5 Sampling Governance	
3.5	(i)	Discuss the governance of the sampling campaign and process, to ensure quality and representivity of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias.	Section 2.1 A data verification project was undertaken by Rana Gruber and a number of pulps from Ørtfjell (432) and Stensundtjern (100) were sent to ALS Scandinavia AB for XRF analysis. The results showed a good correlation between the two laboratories. All assays are sent to Rana Gruber's internal laboratory. Umpire test work was initiated by Baker Geological Services.
	(ii)	Describe the measures taken to ensure sample security and the Chain of Custody.	
	(iii)	Describe the validation procedures used to ensure the integrity of the data, e.g. transcription, input or other errors, between its initial collection and its future use for modelling (e.g. geology, grade, density, etc.)	
	(iv)	Describe the audit process and frequency (including dates of these audits) and disclose any material risks identified.	
		3.6 Quality Control/Quality Assurance	
3.6	(i)	Demonstrate that adequate field sampling process verification techniques (QA/QC) have been applied, e.g. the level of duplicates, blanks, reference material standards, process audits, analysis, etc. If indirect methods of measurement were used (e.g. geophysical methods), these should be described, with attention given to the confidence of interpretation. Refer to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. QA/QC procedures used to check databases augmented with 'new' data have not resulted in corruption of previous versions containing stored 'old' data.	Rana Gruber have not undertaken traditional QAQC testwork throughout their recent drilling programmes and no QAQC data exists for the historical programmes. Twin drilling was carried out in 2012 at Stensundtjern and shown an 8% positive bias to the more recent Fe grades. As part of data verification BGS conducted a re-assaying programme consisting of 432 existing pulps from Ørtfjell and 100 pulps from Stensundtjern.
	(ii)	Document the use of any independent check laboratory (umpire check samples). Identify the independent laboratory and details of its accreditation.	
		3.7 Bulk Density	
3.7	(i)	Describe the method of bulk density determination with reference to the frequency of measurements, the size, nature and representativeness of the samples.	Historical density measurements were verified based on 100 samples that were re-measured. Density was measured using the Archimedes method and quarter core was not wrapped prior to submersion in water as the rock type was considered not to be porous. The two data sets mostly correlated well and a regression curve was used to assign density to the iron formation units by BGS during resource estimation.
	(ii)	If target tonnage ranges are reported state the preliminary estimates or basis of assumptions made for bulk density.	
	(iii)	Discuss the representivity of bulk density samples of the material for which a grade range is reported.	
	(iv)	Discuss the adequacy of the methods of bulk density determination for bulk material with special reference to accounting for void spaces (vugs, porosity etc.), moisture and differences between rock and alteration zones within the mineral deposit.	
		3.8 Bulk-Sampling and/or Trial-mining	
3.8	(i)	Indicate the location of individual samples (including map).	

		(ii)	Describe the size of samples, spacing/density of samples recovered and whether sample sizes and distribution are appropriate to the grain size of the material being sampled.	No bulk sampling or trial mining has been undertaken by Rana Gruber.
		(iii)	Describe the method of mining and treatment.	
		(iv)	Indicate the degree to which the samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole.	

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves

4.1 Geological model and interpretation

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves	4.1	(i)	Describe the geological model, construction technique and assumptions that forms the basis for the Exploration Results or Mineral Resource estimate. Discuss the sufficiency of data density to assure continuity of mineralisation and geology and provide an adequate basis for the estimation and classification procedures applied.	Section 2.2 Baker Geological Services Ltd produced the first Independent Mineral Resource Estimate for the Rana Gruber AS Iron Ore Deposits, Norway, in April 2021. Drill hole core was logged and sampled by professional geologists. Ground conditions in the form of RQD were also recorded.
		(ii)	Describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded.	
		(iii)	Describe any obvious geological, mining, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible exploration target or mineral deposit.	Not applicable
		(iv)	Discuss all known geological data that could materially influence the estimated quantity and quality of the Mineral Resource.	BGS were supplied with the downhole database by Rana Gruber, which was validated and used to create wireframes of the BIF. Modelling was undertaken in Leapfrog Geo. Domains were created based on statistical observations with a hard boundary between high and low magnetite grades. Based on the geological and structural understanding of the deposit, BGS are confident in the interpretation of the deposits at Rana Gruber.
		(v)	Discuss whether consideration was given to alternative interpretations or models and their possible effect (or potential risk) if any, on the Mineral Resource estimate.	
		(vi)	Discuss geological discounts (e.g. magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralized and / or un-mineralized material (e.g. potholes, faults, dykes, etc.).	

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral

4.2 Estimation and modelling techniques

4.2	(i)	Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges for any Exploration Targets, if reported in a Public Report.		Not applicable
	(ii)		Discuss the nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points.	The Mineral Resource estimate was conducted by BGS in Datamine Studio RM supported by geostatistical analysis in Supervisor. A composite file was used to conduct variography and quantitative kriging neighbourhood analysis that enabled ordinary kriging to be used as the main interpolation method. Due to the complex folding the model was unfolded in Datamine prior to estimation. Search parameters were based on the geostatistical results. Average block sizes in the block model are 25 (x) by 10 (y) by 5 (z). Three search ellipse passes were conducted to ensure all blocks were populated. Detailed descriptions of the modelling techniques can be found in the April 2021 Baker Geological Services Mineral Resource report.
	(iii)		Describe assumptions and justification of correlations made between variables.	
	(iv)		Provide details of any relevant specialized computer program (software) used, with the version number, together with the estimation parameters used.	
	(v)		State the processes of checking and validation, the comparison of model information to sample data and use of reconciliation data, and whether the Mineral Resource estimate takes account of such information.	BGS validated the block model through visual comparisons and swath plots to compare the mean input composite data and output model grades.
	(vi)		Describe the assumptions made regarding the estimation of any co-products, by-products or deleterious elements.	Grades for Fe_Tot, Fe_Mag, S, P, MnO and TiO_2 were estimated. No by products have been estimated.

4.3 Reasonable prospects for eventual economic extraction

4.3	(i)		Disclose and discuss the geological parameters. These would include (but not be limited to) volume / tonnage, grade and value / quality estimates, cut-off grades, strip ratios, upper- and lower-screen sizes.	Reasonable prospects for eventual economic extraction was considered by BGS (and concurred by Micon) in the form of geological complexity, mining method, past production success and existing infrastructure. Mineral Reserves have not been previously declared for Rana Gruber before, but iron ore has been economically mined from the Dunderland deposits since 1994. The two new modelled and reported areas, namely Stensundtjern and Ørtfjell West are based on the continuation of the same BIF as current operations. Ore will be mined using tried and tested mining methods, namely truck and shovel open-pit and SLC underground. Ore will be processed at Rana Gruber's current processing facility in Mo i Rana.
	(ii)		Disclose and discuss the engineering parameters. These would include mining method, dilution, processing, geotechnical, geohydraulic and metallurgical) parameters.	
	(iii)		Disclose and discuss the infrastructural including, but not limited to, power, water, site-access.	
	(iv)		Disclose and discuss the legal, governmental, permitting, statutory parameters.	

	(v)		Disclose and discuss the environmental and social (or community) parameters.	An internal Pre-Feasibility Study (PFS) is underway to assess the optimal infrastructure required regarding movement of ore from the new mines to the crusher.
	(vi)		Disclose and discuss the marketing parameters.	
	(vii)		Disclose and discuss the economic assumptions and parameters. These factors will include, but not limited to, commodity prices and potential capital and operating costs	
	(viii)		Discuss any material risks	
	(ix)		Discuss the parameters used to support the concept of "eventual"	

4.4 Classification Criteria

4.4	(i)		Describe criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories.	BGS considered geological complexity, quality and quantity of data and quality of the estimated block model to assign a Mineral Resource classification. Measured, Indicated and Inferred Resources have been declared. Measured Resources were assigned based on: material lying directly below and to the west of the current underground mining area and where the underground mining target maintains a thickness and geometry like the current underground operation, and; where the Fe_Tot search volume = 1 and displays an elevated and continuous Fe_Tot Slope of Regression being a statistical measure of the accuracy of the estimate. Indicated Resources were assigned based on where the Fe_Tot search volume = 1 and displays an elevated and continuous Fe_Tot Slope of Regression >0.3. Inferred Resources were assigned based on zones with low sample count and geological uncertainty.

4.5 Reporting

Section 4: Estimation and Reporting of Exploration Results, Mineral	4.5	(i)	Discuss the reported low and high-grades and widths together with their spatial location to avoid misleading the reporting of Exploration Results, Mineral Resources or Mineral Reserves.			Low and high grade Fe_Mag were domained separately.
		(ii)	Discuss whether the reported grades in Exploration Targets are regional averages or if they are selected individual samples taken from the property under discussion.			Not applicable

		(iii)	State assumptions regarding mining methods, infrastructure, metallurgy, environmental and social parameters. State and discuss where no mining related assumptions have been made.			Currently a Sublevel Caving system allowing caving on top and drawdown of ore. Will also use a Sub Level Open Stope method with stable rib and sill pillars. Open pit design criteria based on strong undisturbed rock potentially allowing for aggressive slope and bench designs.
		(iv)	State the specific quantities and grades / qualities which are being reported in ranges and/or widths, and explain the basis of the reporting			Not applicable
		(v)		Present the detail for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in the Mineral Resource statement		A preliminary optimised pit shell was created to estimate Stensundtjern Mineral Resources using a metal price of NOK 1,470/tonne for a 71.5% Fe_Tot magnetite concentrate and NOK 910/tonne for a 62% Fe_Tot hematite concentrate. For underground Mineral Resources and Kvannevann West a stope optimisation process was carried out using a 25% Fe_Tot stope cut-off.
		(vi)		Present a reconciliation with any previous Mineral Resource estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).		No previous Mineral Resources have been declared for Rana Gruber.
		(vii)		Present the defined reference point for the tonnages and grades reported as Mineral Resources. State the reference point if the point is where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.		Mineral Resources are declared as in situ grades and tonnes within the optimised pit shell and underground designs where applicable.
		(viii)	If the CP is relying on a report, opinion, or statement of another expert who is not a CP, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the CP to rely on the other expert, any significant risks and any steps the CP took to verify the information provided.			Micon has not estimated Mineral Resources and has based opinions on the work of Howard Baker of Baker Geological Services Ltd (BGS). Mr. Baker is considered a CP through registration as a Chartered Professional Fellow (#224239) of the Geological Society (UK).
		(ix)	State the basis of equivalent metal formulae, if applied.			Not applicable.

Section 5: Technical Studies

5.1 Introduction

Section 5: Technical Studies	5.1	(i)	not applicable to Exploration Results	State the level of study – whether Scoping, Pre-Feasibility, Feasibility or ongoing Life of Mine	State the level of study – whether Pre-feasibility, Feasibility or ongoing Life of Mine. The Standard requires that a study to at least a Pre-Feasibility level has been undertaken to convert Mineral Resource to Mineral Reserve. Such studies will have been carried out and will include a mine plan or production schedule that is technically achievable and economically viable, and that all Modifying Factors have been considered.	Rana Gruber is an existing operation. The Stensundtjern deposit forms an extension to the operating life of the Rana Gruber Ørtfjell operations. Ongoing Life of Mine Technical Study as part of the ongoing internal PFS was completed in Q4 2021. The Technical Study includes a LoM plan and production schedule that is technically achievable and economically viable and in which all Modifying Factors have been considered.

(ii)

Provide a summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve for Pre-feasibility, Feasibility or on-going Life-of-Mine studies.

Open-Pit Parameters	**Unit**	**Value**
Direct Iron Ore Mining Costs	NOK/RoMtt of iron ore	37.43
Incremental Iron Ore or Waste Mining Costs		
(Vertical Cost Component)	NOK/RoM tt of iron ore	0.2 0.1
Direct Waste Mining Costs	NOK/t of waste	23.9
Incremental Direct Waste Mining Costs	NOK/t of waste	
(Vertical Cost Component)	NOK/t of waste	0.2
Processing Plant Costs	NOK/RoMt	65
Processing Recovery (H400)	%	62
Processing Recovery (H150)	%	63.5
Processing Recovery (M40)	%	71.5
Processing Plant Throughput	Mt/a	5
Exchange Rate	US$:NOK	8.5
Exchange Rate	EUR:NOK	10
Average Selling Price H400	US$/t of concentrate	92
Average Selling Price H150	US$/t of concentrate	92
Average Selling Price M40	EUR/t of concentrate	120
Average Selling Costs	US$/t of concentrate	20
Discount Rate	%	7.5
Mineral Compensation	%	0
Mining Dilution	%	5
Mining Losses	%	5
Minimum Bottom Mining Width	m	40
Inter-Ramp Slope Angle	Degree	59
Swell Factor	%	40
Iron Ore Specific Gravity	t/m3	3.3-3.6
Waste Specific Gravity	t/m3	2.75-2.8

Underground Parameters	**Recovery (%)**	**Dilution (%)**	**Dilution Grade (%)**
Transverse SLOS	95	5	100
Transverse SLOS (>50m)	70	5	100
Longitudinal SLOS	95	10	0
SLC 155 (longitudinal)	77.5	10	0
SLC 123	120	10	0
SLC 091	105	10	0
Drilling/Mucking Drift	100	8	100
Mucking Drift	100	8	100
Ring Drilling Drive	100	8	100
Haulage	100	8	100
Airway	100	8	100
Vent Raise to Surface	100	0	0
Internal Raise	100	0	0

5.2 Mining Design

5.2	(i)	not applicable to Exploration Results	State assumptions regarding mining methods and parameters when estimating Mineral Resources or explain where no mining assumptions have been made.		Ground suitable for mass mining techniques.
	(ii)		Discuss Modifying factors taken into account in estimation of Mineral Resources	State and justify all modifying factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external) mining dilution and mining losses used for the techno-economic study and signed-off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements.	Generation of the modifying factors for this Mineral Reserve estimate were based on a Mineral Resource estimate for Stensundtjern and Ørtfjell completed in April 2021. Pit optimisations using the Lerch-Grossman algorithm with industry standard software were undertaken. This optimisation utilised the Mineral Resource model, together with costs, revenue, geotechnical inputs, slope angle, topography surface, mining boundaries and exclusion area. The resulting pit shells were used to develop detailed pit designs with due consideration of geotechnical, geometric and access constraints. These pit designs were used as the basis of production scheduling and will be used in ongoing internal PFS economic evaluation. As part of the previous methodology, Inferred Mineral Resources were excluded from mine schedule to validate the economic viability of the Mineral Reserves. Conventional open-pit mining methods, i.e. trucks and shovel, similar to other Rana Gruber Ørtfjell operating open-pits (Kvannevann East and Nordmalm) were selected. Applied geotechnical parameters are readily available to assist in the selection of parameters for the preparation of geotechnical pit design and are guided by existing open-pit mining operations at Rana Gruber. The resultant inter-ramp slope angle is 59º, haul road width is 15 m and overall slope angle is between 50º to 60º, depending on the presence of access ramp in the final wall slope. The PFS considered the existing and future infrastructure requirements associated with the conventional truck and shovel open-pit mining operation, including crushing, road vehicle haulage, dump location, access routes and explosive storages. A 40 m wide pit bottom based on the existing open-pit mining equipment operating was considered a practicable and feasible minimum mining dimension. A 5% mining dilution and 5% ore losses were assumed. The annual open-pit mine production capacity is 2 Mt RoM over a production schedule of 15 years for Stensundtjern deposit. Section 4.3.1. Mining methods were selected on the basis of a qualitative assessment undertaken by Rana Gruber in 2021 and reviewed in this study. Criteria included

				drainage; current experience with SLC; previous experience with SLOS; rock strength, behaviour and characteristics; modelled geometry of mineral resources; production considerations and long-term resources at depth. Minimum mining dimensions in the SLOS design were defined by a back-analysis of what have proved to be stable hydraulic radii as evidenced by previous experience with this method at Rana Gruber. The level spacing and caving unit dimensions of the SLC design were defined by a combination of long-hole drilling capability and continuation of the existing, successful cave. Dilution and recovery were designated based on a combination of the existing experience at Rana Gruber and industry norms derived by experience. The existing infrastructure has been assessed as suitable to allow for a continuation of the existing capacity and throughput in place within the existing schedule. Despite limited grade control issues, the phasing in of SLOS operations in place of SLC operations will aid with grade control. Geotechnical considerations have been flagged in this report as needing to be quantified, however, the conservative placement of pillars in the SLOS design has been assumed to be sufficient to allow for flexibility as this design is optimised in future Life of Mine studies. It has been assumed that above the 123 level the mine freely drains due to gravity, blasted material will rill at 50º and the density of waste is 2.8 t/m^3.
	(iii)		State what mineral resource models have been used in the study.		Mineral Resource block models "RG_APRIL_2021_STENSUN.DAT" and "RG_APRIL_2021.DM supplied by Baker Geological Services Ltd.
	(iv)		Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied. Include metal equivalents if relevant		Section 8.1.1 No cut-off grades were applied to convert Mineral Resource to Mineral Reserve since a 20% Fe_tot grade cut-off had already been applied in the Mineral Resource model as part of Mineral Resource estimation. The NPVS optimisation for Stensundtjern mineralisation is only based on Indicated Mineral Resources and resulted in a 5.9% Fe_Mag or 6.9% Fe_Hem RoM cut-off estimated with no mining cut-off applied than the previously applied mineral resource cut-off grade (i.e. minimum 20% Fe_tot grade).A cut-off for inclusion Reserves of >25%Fe_Tot was imposed on the wireframes. This cut-off point was defined by Rana Gruber. With the exception of waste development wireframes, once all mining factors were applied to any wireframe, if it returned a grade of <25%Fe_Tot, it was interrogated visually to see if could be improved to return above cut-off while still representing a feasible mining shape. If this was not possible, it was excluded from consideration, along with its associated development.

	(v)			Description and justification of mining method(s) to be used.	Rana Gruber has been in operation since 1964 using both open-pit and underground mining methods successfully. The ground is stable and undisturbed suitable for bulk mining with large stopes. Section 3.3.1 and 4.3.1. Conventional drill and blast combined with trucks and shovel mining methods have been selected as the optimum method for the Stensundtjern deposit. Sub-level Caving (SLC), Transverse & Longitudinal Sub-Level Open Stoping (SLOS) mining methods were selected for consideration in this project on the basis of a qualitative assessment undertaken by Rana Gruber in 2021 and reviewed in this study. Criteria included drainage; current experience with SLC; previous experience with SLOS; rock strength, behaviour and characteristics; modelled geometry of mineral resources; production considerations and long-term resources at depth. Minimum mining dimensions in the SLOS design were defined by a back-analysis of what have proved to be stable hydraulic radii as evidenced by previous experience with this method at Rana Gruber. The level spacing and caving unit dimensions of the SLC design were defined by a combination of long-hole drilling capability and continuation of the existing, successful cave.
	(vi)			For open-pit mines, include a discussion of pit slopes, slope stability, and strip ratio.	Section 3.3.1 Strong to very strong ground, no structures favourable dip allows for high benches, steep batters and a high overall slope angle. Based on existing open-pit mines at Rana Gruber (Kvannevann East and Nordmalm), a pit slope of 55º was used for LG optimisation and inter-ramp slope angle of 59º (before access ramps included in ramp wall). Based on 70 MPa to 90 MPa for all domains (strong-very strong) and with an unconfined compressive strength (UCS) of approximately 80 MPa giving a stress of <5 MPa (from old pit measurements), hard rock bench face angle of 80 degrees was selected combined with a catch bench width of 8.5 m, using double 10 m benches.
	(vii)			For underground mines, discuss mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements.	Section 4.3.1. The SLC mining method is a well-practiced mining technique employed at Rana Gruber and the caving design and caving front sequencing incorporated in this study reflects the current method being used today. The level spacing for the SLC levels considered in this study (155, 123, 091) is 32 m. The individual SLC unit widths (drill / mucking drive spacing) are 22 m. All loading and access drives are placed in the footwall and are designed at a drainage gradient of 1.25%. All drilling / mucking drives are designed at a drainage gradient of 0.6%. The ventilation requirements necessitated by the mobile fleet and blasting in the new SLOS parts of the project were deemed met by

						the conceptual design which includes multiple vent connections level to level and to surface. Cooling is understood to not be required.
	5.2	(viii)	not applicable to Exploration Results		Discuss mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery.	Remote mucking and mechanised drilling. are currently in use. The existing open-pit mine production at Rana Gruber is 2 Mt/a and the same mining rate for open-pit was used in LoM plan and production scheduling. As per existing mining contractors equipment being used in Kvannevann East open-pit, 660-t payload mining trucks combined with a hydraulic mining shovel equipped with a bucket from 5 to 8 cubic metres. Open-pit grade control involves sampling blasthole cuttings produced from the production drill hole cutting. The detailed implementation of grade control typically consists of sampling and assaying to determine the quantity and location of the mineralisation and then defining economic mining zones or mineralisation types, i.e., High Fe_Mag or Low Fe_Mag. Estimation of five rotating crews working would accomplish continuous coverage of the open-pits mine, i.e., three crews working while two crew on a rest cycle. The open-pit blasting crew will have their own working schedule based on day shift five days per week. Section 8.3. Underground mining rate of 3 Mt/a was decided by the client based on a continuation of existing production rates at the operation. Underground equipment selection was based on the existing underground fleet. The Rana Gruber mines are a mature operation with extensive geotechnical data acquired from back analysis, monitoring, testwork, modelling and observations. This data was examined to assess the proposed change in the mining method along with considering the specific conditions resulting from induces stresses, possible structures and parallel lens mining. The factors influencing the health and safety of the workforce were considered unchanged by the planned continuation of underground operations at Rana Gruber. Dilution is applied to every wireframe.
		(ix)			State the optimisation methods and any software used in planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control).	Geotechnical modelling using FLAC3D, MPBX extensometers and 2&3D CSIR stress sensors to monitor and manage ground behaviour. Section 7 and 8. The open-pit optimisation used LG optimisation in Datamine NPV Scheduler combined with Geovia Surpac for open-pit mine design. The LoM plan and production schedule were generated in NPVS using the Stensundtjern pit design, exclusion zone, topography surface and mining tenements boundaries as constraints. In regards of Kvannevann East and Nordmalm, end of month March 2021 topography surfaces combined to their respective open-pits

					design were used to determine the remaining Mineral Reserve estimated in Year 2021 to Year 2024 in the LoM production schedule. Underground optimisation of SLOS wireframes was undertaken both visually, using the block model constrained by the cut-off grade and iteratively by running the wireframes through the Resource to Reserves process described above. Wireframes excluded with a net grade below cut-off were re-visited and modified if possible to optimise their extents. Automated optimisation of the underground plan was not undertaken. Maptek's Vulcan software Version 12.0.1 was used in the planning process. The principal constraint imposed on the design was that of the drilling length of the Simba M6 rig. The constraint of the previous open-pit operations was also accounted for by the introduction of a minimum, three dimensional, stand-off of 20 m between wireframe and void. In addition, wireframes were limited to the extent if underground voids as of 31st March 2021.
		5.3 Metallurgical and Test work			
	(i)		Discuss the source of the sample, the representivity of the potential feed and the techniques used to obtain the samples, laboratory and metallurgical testing techniques.		Rana Gruber have been mining and processing iron ore at Dunderland for over 60 years. Ore is processed using a two-stage magnetic separation facility in Mo I Rana.
	(ii)		Explain the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work already carried out.		
	(iii)		Discuss the possible processing methods and any processing factors that could have a material effect on the reasonable expectations of eventual economic extraction. Discuss the appropriateness of the processing methods to the style of mineralisation.	Describe and justify the processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements.	The processing method adopted is based on historical knowledge, academic research and more recent testwork on samples from Stensundtjern, Ørtvann and Finnakåteng on zones of modelled high Fe_Mag. The process flow involves raw ore being sent through an autogenous mill before undergoing low intensity magnetic separation (LIMS) followed by wet high intensity magnetic separation and finally gravimetric settling and dewatering to produce magnetite and haematite concentrates.
	(iv)			Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used. A detailed flow sheet / diagram and a mass balance should exist ,especially for multi-product operations from which the saleable materials are	

					priced for different chemical and physical characteristics.	
		(v)			State what assumptions or allowances have been made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole.	
		(vi)			State whether the metallurgical process is well-tested technology or novel in nature. If novel, justify its use in Mineral Reserve estimation.	The metallurgical process for both magnetite and haematite concentrate products is well-tested and has been in operation for many years. A low risk exists regarding the RoM from Stensundtjern combined with the RoM from underground operations is estimated to have a RoM Fe_Hem grade circa twice as high as the existing RoM entering the processing plant. It is assumed that the experienced processing crew at Rana Gruber will be able to manage smoothly this high Magnetite grade in the RoM with major impact on processing recoveries and haematite concentrate saleable product price.
	5.4 Infrastructure					
	5.4	(i)	not applicable to Exploration Results	Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed		Section 6. Rana Gruber has good infrastructures in place at their existing open-pit and underground mining operations, i.e. mining equipment, crusher, iron ore silos, train loading area and railroad to the processing plant at the Mo i Rana port. The ongoing internal PFS is looking at further improvements in regard to the new Stensundtjern open-pit location.

	(ii)			Report in sufficient detail to demonstrate that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, rail or port facilities, water and power supply, offices, housing, security, resource sterilisation testing etc.). Provide detailed maps showing locations of facilities.	Section 6. Rana Gruber has already an existing processing plan at the port in Mo i Rana and railroad for transporting crushed RoM from the existing mining operations to the processing plant. Rana Gruber existing offices are located in Storforshei and at the processing plant. In the industrial area near the mine offices in Storforshei there are also existing mine contractors accommodation, drill core logging, storage and archive as well as warehouse and workshop buildings.
	(iii)			Statement showing that all necessary logistics have been considered.	All existing logistics have been considered for LoM plan and production schedule. Further logistics optimisation in regards of starting a new open-pits at Stensundtjern are ongoing before the start of production in Q4 2024.

5.5 Environmental, Social Performance, and Governance

5.5	(i)		General: - Confirm that the company or reporting entity has addressed the host country environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which it subscribes - Identify the necessary permits that will be required and their status and where not yet obtained, confirm that there is a reasonable basis to believe that all permits required for the project will be obtained - Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors including Interested and Affected Parties (I&AP) and/or studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation. - Identify any legislated social management programmes that may be required and discuss the content and status of these. - Outline and quantify the material socio-economic and cultural impacts that need to be mitigated, and their mitigation measures and where appropriate the associated costs.	Rana Gruber operates in accordance with the Emissions permit, 2012.305.3 issued by the Directorate for Environment and the mining licence issued by the Directorate for Mining. The emission permit is currently under review and we will discuss if any other areas have to be included, For the Stensundtjern prospect the process of applying for a mining licence will start Q1 2022.Rana Gruber operates according to the national law and guidelines for the working environment. Rana Gruber is certified ISO 9001:2015 and ISO 14001:2015.

Section 5: Technical Studies	5.5	(ii)	Context: The project context is determined and described, including the following aspects: • The locality's physical geography, centres of population, economic and cultural characteristics; • Existing land and natural resource use for economic, cultural, recreational and conservation purposes (inclusive of environmental and cultural sites of interest); • Existing or historical industrial development and associated infrastructure including mining and quarrying in the region; and • Local governance structures and administrative bodies, their roles and responsibilities in relation to permitting and regulations. • Site access routes and any potential impact on environment or local communities • Provision of energy for activities (e.g. off-grid renewable energy, or sourced direct from local non-renewable power grid with plans for decarbonisation for future project if possible)		Mining operations are localised in the Dunderland valley, approx. 27 km north of the city of Mo i Rana, The closest village is Storforshei. The region has a long history of mining stretching back to the early 1900s. The development of the city of Mo i Rana after WWII is largely due to mining and heavy industry (smelters). Mo i rana is easily accessible by car through European roads, train and hosts a domestic airport. The mine site is accessible through mining roads. The local municipal administration governs zoning plans and is a partner for in relations to permitting and regulations. Energy is provided through the public electrical grid.
		(iii)	• High level assessment of level of water stress (e.g. potential for drought, flood and impact on water quality) • High level assessment of biodiversity (e.g. endangered species known in area)	• Associated Environmental and seasonal constraint/ control/consent measures/modifying factors described • Identification of potential climate associated risks and impacts • Social economic and cultural constraint /control/consent measures/ modifying factors described • Any sensitive areas that may affect the project as well as any other environmental factors including I&AP and/or studies that could have a material effect on the likelihood of eventual economic extraction. • Management of project waste and anticipated requirements for large scale infrastructure for mine waste for future, including but not limited to waste dumps and tailings dams.	At this stage Rana Gruber does not envisage any climate induced effect from the exploitation of the mineral reserves, Water management is regulated through the emissions permit mentioned above. Mapping and assessment of biodiversity is an ongoing process. Areas regulated for mine waste deposits are mapped and where affected species were encountered these areas are excluded from mine waste dumping or other mitigating efforts are undertaken. Management of any project waste is regulated through the emissions permit and reported yearly.
		(iv)	Permits and permission: Identification of the necessary permits that will be required and their status, and where not yet obtained, and confirmation that there is a reasonable basis to believe that all permits required for the project will be obtained in a timely manner. Also include any records of penalties / fines or revoked permits complete with rationale.		Rana Gruber operates in accordance with the Emissions permit , 2012.305.3 issued by the Directorate for Environment and the mining licence issued by the Directorate for Mining. The emission permit is currently under review and we will discuss if any other areas have to be included, For the Stensundtjern prospect the process of applying for a mining licence will start Q1 2022. Rana Gruber operates according to the national law and guidelines for the working environment.
		(v)	Liabilities: Describe any known rehabilitation activities, liability and / or compliance costs	• Describe the best cost estimate for closure inclusive of environmental, social material remaining liability and compliance costs. • Provide a description of mechanisms in place to address unplanned closure • If appropriate, describe bonding obligations in place to ensure that these liabilities can be funded on a qualitative and quantitative basis.	Rehabilitation measures are regulated through the issued mining licence. Rana Gruber provides for rehabilitation costs through an annual provision.

(vi)	Description of stakeholder group characteristics Records of Community and Stakeholder relationships: Records kept of all engagements with all stakeholders from the outset of the project; A grievance and/or complaints procedure established, stakeholders' issues, concerns recorded and tracked until resolved.		Rana Gruber does not retain such records.
(vii)		A data management system implemented to record and track engagements; Provisions made for vulnerable and or underrepresented stakeholder groups Presence, or not of Indigenous People, if FPIC triggered, how is this managed	Rana Gruber is joining TSM (towards sustainable mining), included in this is a protocol for engagement towards indigenous people.
(viii)	Health and safety protocols and procedures required for exploration target definition inclusive of evidence of adherence to them and ongoing health and safety record.	Health and safety procedures and protocols, including community safety and security, across the exploration programme inclusive of evidence of adherence to them and ongoing health and safety record	Rana Gruber complies to Norwegian HSE rules and work force regulations.
(ix)	Opportunities for contributing to the local economy identified and utilized where appropriate.	Legislated and or voluntary social development programmes that may be required and content and status of these.	Not applicable
(x)		Material socio-economic and cultural impacts that need to be managed, and where appropriate the associated costs.	Not applicable
(xi)	Description of corporate governance board structure: gender, nationality, tenure, roles, responsibilities and process for selection of Board members, and Board remuneration processes and procedures		Rana Grubers board consists of 5 members; 2 female / 3 male according to the Oslo stock exchange rules. All members are Norwegians. A nomination committee that represents shareholders nominates the board members. Members of the nominating committee are not board members.
(xii)	• Commitment to GIIP: transparency, diversity, commitment to ESG described • Corporate commitment to social performance described/ provided • Corporate commitment to environmental stewardship described / provided	• Description of how corporate compliance is assured and verified • Demonstrable commitment to GIIP: transparency, diversity, commitment to ESG described • Demonstrable commitment to social performance described • Demonstrable commitment to environmental stewardship described	Rana Gruber complies with ISO 9001:2015 and ISO14001:2015. Corporate compliance is audited yearly. Yearly reporting is in compliance to the emission permits granted. Rana Gruber has an internal control system for risk management and quality control. Rana Gruber has an on-going process to join TSM.

<table>
<tr><td></td><td>(xiii)</td><td>Integrated Risk Management: Description of identified potential modifying factors and management actions taken to manage them where appropriate</td><td colspan="2">• Description of proposed mitigation plans for identified modifying factors and management actions taken to manage them where appropriate.
• Description of any additional risks that may impact on the long term future of the project, even if not deemed to be material at the current time.
• Description of how the risk assessment process outlined here is integrated with the overall risk management framework for the company as a whole.</td><td>Rana Gruber has an internal control system for risk management and quality control. It is a digital system that is available to all company employees.</td></tr>
<tr><td></td><td></td><td colspan="4">5.6 Market Studies and Economic Criteria</td></tr>
<tr><td rowspan="4">5.6</td><td>(i)</td><td rowspan="4">not applicable to Exploration Results</td><td rowspan="4">Discuss any technical and economic factors likely to influence the prospect of economic extraction.</td><td>Describe the valuable and potentially valuable product(s) including suitability of products, co-products and by products to market.</td><td>Rana Gruber currently supply a haematite and a magnetite concentrate to the market, namely H400, H150 and M40 that are used in a variety of industries.</td></tr>
<tr><td>(ii)</td><td>Describe product to be sold, customer specifications, testing, and acceptance requirements. Discuss whether there exists a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained. Present price and volume forecasts and the basis for the forecast.</td><td>Rana Gruber has signed an off-take agreement with Cargill for all their haematite concentrate products until year 2030.</td></tr>
<tr><td>(iii)</td><td>State and describe all economic criteria that have been used for the study such as capital and operating costs, exchange rates, revenue / price curves, royalties, cut-off grades, reserve pay limits.</td><td>Economic criteria are based on the current capital and operating costs incurred by Rana Gruber at their existing operations. A >20%Fe_Tot cut-off was applied to the wireframes used to generate the resource model and subsequent reserves. This is not based on economic criteria but on the hard boundary between the BIF and waste rock. An economic cut-off is being investigated as part of the PFS. A 25%Fe_Tot cut off was applied to stope optimisation.</td></tr>
<tr><td>(iv)</td><td>Summary description, source and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate and exchange rates.</td><td>Table 7.6: Unit Rates used in the Mining Study
<table>
<tr><th>Product</th><th>Unit</th><th>Rate</th><th>Source</th></tr>
<tr><td>Hematite Iron Ore Concentrate</td><td>USD/t</td><td>112</td><td>Long term consensus amongst analyst</td></tr>
<tr><td>Magnetite Iron Ore Concentrate</td><td>EUR/t</td><td>120</td><td>Current contracts price in November 2021</td></tr>
<tr><td>Freight costs</td><td>USD/t</td><td>20</td><td>Rana Gruber</td></tr>
</table></td></tr>
</table>

	(v)			Present the details of the point of reference for the tonnages and grades reported as Mineral Reserves (e.g. material delivered to the processing facility or saleable product(s)). It is important that, in any situation where the reference point is different, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.	The reference point at which RoM is defined is at the point where the RoM is delivered to the crusher i.e., primary crusher or RoM pad stockpiles.
	(vi)			Justify assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing and other costs. Provide details of allowances that are made for the content of deleterious elements and the cost of penalties.	Costs are based on prior experience and knowledge from Rana Gruber existing operations. Please refer to 5.1 (ii).
	(vii)			Provide details of allowances made for royalties payable, both to Government and private.	Rana Gruber has no royalties payable.
	(viii)			State ownership, type, extent and condition of plant and equipment that is significant to the existing operation(s).	Rana Gruber owns all plant equipment significant to the operation.
	(ix)			Provide details of all environmental, social and labour costs considered	Please refer to the environmental section of Table 1.

Section 5: Technical Studies

		5.7 Risk Analysis			
5.7	(i)	A high level assessment should be made of key areas of uncertainty which may affect exploration outcomes. An assessment should be provided on the chances of exploration success, together with consideration of any potential threats, such as ESG aspects, which could hinder eventual development of a mining or extraction project in the exploration area."	Report an assessment of technical, environmental, social, economic, political and other key risks to the project. Describe actions that will be taken to mitigate and/or manage the identified risks.		Rana Gruber are planning to leave an exclusion zone over the Stensundtjern deposit to protect and preserve a natural cave and underground water flow area. Rana Gruber has not been granted a drift concession permit over the Stensundtjern deposit and over the full extent of the Mineral Resources. Rana Gruber is currently planning a drift concession application for the Stensundtjern deposit outside the exclusion zone.
		5.8 Economic Analysis			
5.8	(i)	not applicable to Exploration Results	Describe the basis on which reasonable prospects for eventual economic extraction has been determined, including any material assumptions made in determining the 'reasonable prospects for eventual economic extraction'.	State and justify the inclusion of any Inferred Resources in the Pre-feasibility and Feasibility Studies economic analysis. Report the sensitivity to the inclusion of any Inferred Resources.	Inferred Resources are not included in the Mineral Reserves. Where necessary in some portions of the Stensundtjern open-pit Inferred Resources were included as diluting material. Occasional immaterial blocks of Inferred Resources were included in the underground mine design in order to access new areas. The actual grade and tonnage for these blocks are not included in the Mineral Reserves and the impact of including some Inferred material in the mine design is not material or considered to be a risk.
	(ii)		At the relevant level (Scoping Study, Pre-feasibility, Feasibility or on-going Life-of Mine), provide an economic analysis for the project that includes:		Section 7. Micon has not performed an independent economic analysis of the Rana Gruber Mine. All the cost parameters used to define Mineral Reserves have been supplied by Rana Gruber including capital and operating costs. The cost inputs supplied to Micon are considered appropriate to the scale and style of operation. The ongoing internal PFS will include detailed cash flow modelling, that should consider the optimum mining method to be selected for some of the new deposits, which could be mined by either open-pit or underground methods. In addition, Micon is aware that Rana Gruber are assessing the cost of becoming an owner-operated mine.
	(iii)		Cash Flow forecast on an annual basis using Mineral Reserves or an annual production schedule for the life of the project		
	(iv)		A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital		
	(v)		Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as appropriate and discuss the impact of the results.		

Section 6: Estimation and Reporting of Mineral Reserves

6.1 Estimation and Modelling Techniques

Section 6: Estimation and Reporting of Mineral Reserves

6.1	(i)	not applicable to Exploration Results	Describe the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve.		The block model used was provided by Rana Gruber and created by Baker Geological Services Ltd. The block model was imported into Vulcan (Ørtfjell underground) and Datamine (Stensundtjern open-pit) as a and subsequently validated. The Indicated Mineral Resource estimate for Stensundtjern and Ørtfjell model were used as a basis for conversion to Probable Mineral Reserve. At Ørtfjell underground all blocks labelled Inferred or unclassified were excluded from the Mineral Reserves.
	(ii)		Report the Mineral Reserve Statement with sufficient detail indicating if the mining is open pit or underground plus the source and type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources.		Section 8.1. The Mineral Reserve statement is supported by a Mineral Resource estimate and a mine plan based on open-pit and underground mine designs, and production schedules. Mineral Resource depletion within Kvannevann East and the Nordmalm open-pit has been applied from the effective date of the resource estimate up to the beginning of the production schedule to account for the iron ore that has been mined since April 2021.
	(iii)			If Inferred resources are used in assessing Mineral reserves, then report and discuss a comparison between the two possibilities, the one with inclusion of Inferred Mineral Resources and the one without inclusion, in such a way so as not to mislead the investors. Identify the quantity of the Inferred Mineral Resources included and the sensitivity of the inclusion to the study.	Section 8.2. Only Measured and Indicated Mineral Resources were used to estimate Mineral Reserves in accordance with PERC reporting guidelines. One exception to this is at the Stensundtjern deposit, where the open-pit mine design and schedule includes a small proportion of Inferred Mineral Resources. This was necessary to create access to other areas of the deposit. The Inferred Mineral Resource category is included in the open-pit mine design, mine planning as diluting material to the Mineral Reserves and has no significant effect on the results of the Technical Study.
	(iv)			A Mineral Reserve Statement in sufficient detail indicating if the mining is open pit or underground plus the source and type of mineralisation , domain or ore body, surface dumps, stockpiles and all other sources.	Section 8.0, Table 8.1

Deposit	Deposit Zone	Mining Method	Classification	Tonnage (Mt)	Density (g/cm³)	Fe_Tot (%)	Fe_Mag (%)	S (%)	MnO(%)
Ørtfjell	*Kvannevann 123 Level*	*Sub-Level Caving*	*Proved*	*15.5*	*3.4*	*27.9*	*1.8*	*0.01*	*0.3*
123 Level Sub-Level Cave M Total				***15.5***	***3.37***	***27.9***	***1.8***	***0.01***	***0.27***
Ørtfjell	Kvannevann All	Sub-Level Caving	Probable	29.7	3.4	29.2	1.9	0.01	0.3
Sub-Level Cave M+I Total				**29.7**	**3.36**	**29.2**	**1.9**	**0.01**	**0.30**
Ørtfjell	Eriksmalmen	Sub-Level Open Stoping	Probable	10.2	3.4	30.2	5.1	0.01	0.4
	Kvannevann E		Probable	3.5	3.4	29.4	1.7	0.00	0.7
	Kvannevann W		Probable	12.3	3.4	30.8	6.3	0.02	0.1
Open Stope M+I Total				**26.0**	**3.40**	**30.4**	**5.2**	**0.02**	**0.30**
Ørtfjell	Underground All	Development	Probable	1.7	3.4	31.3	4.0	0.02	0.3
Development M+I Total				**1.7**	**3.41**	**31.3**	**4.0**	**0.02**	**0.33**
Ørtfjell	Nordmalm	Open-pit	Probable	1.3	3.5	33.5	11.3	0.01	0.1
	Kvannevann E		Probable	5.7	3.4	29.8	1.3	0.01	0.8
Stensundtjern	East		Probable	17.4	3.4	32.8	8.7	0.04	0.4
	West		Probable	12.0	3.5	36.2	8.3	0.06	0.5
Open-pit M+I Total				**36.5**	**3.43**	**33.5**	**7.5**	**0.04**	**0.48**
Total Proved and Probable	**All**	**-**	**Probable**	**93.8**	**3.40**	**31.2**	**5.0**	**0.03**	**0.37**

	(v)			Provide a reconciliation reporting historic reliability of the performance parameters, assumptions and modifying factors including a comparison with the previous Reserve quantity and qualities, if available. Where appropriate, report and comment on any historic trends (e.g. global bias)	This is the first PERC Code prepared Mineral Reserve estimate and first time publicly reported. Previous Mineral Resources are considered historical estimates and were only used internally for mine planning purposes.

6.2 Classification Criteria

6.2	(i)			Describe and justify criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, based on the Mineral Resource category, and including consideration of the confidence in all the modifying factors.	All Mineral Resources were converted to Probable Reserves with the exception of the 123 level at Kvannevann (Ørtfjell underground), which has been reported as a Proved Reserve. The Probable Reserves could be upgraded to Proved once the PFS has been completed.

6.3 Reporting

6.3	(i)			Discuss the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) therefore.	This does not apply to open-pit mining method because there are no Measured Mineral Resource within the existing open-pits or future open-pits. Only Kvannevann West 123 level (Ørtfjell underground) was converted to Probable Reserves as this is currently in production.

Section 6: Estimation and Reporting

	(ii)			Present details of for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in respect of the Mineral Reserve statement	These have not been taken into account in this study and will form part of the ongoing PFS.
	(iii)			Present the details of the defined reference point for the Mineral Reserves. State where the reference point is the point where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. State clearly whether the tonnages and grades reported for Mineral Reserves are in respect of material delivered to the plant or after recovery.	The reference point at which RoM is defined is at the point where the RoM is delivered to the crusher i.e., primary crusher or RoM pad stockpiles.
	(iv)			Present a reconciliation with the previous Mineral Reserve estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).	This criteria does not apply because it is the first time Mineral Reserve have been reported publicly.
	(v)			Confirm that only Measured and Indicated Mineral Resources can be considered for inclusion in the Mineral Reserve.	This is to confirm that only Indicated Mineral Resources were converted to Probable Mineral Reserve within the open-pits. A marginal amount of Inferred Mineral Resources has been included as mining dilution within Stensundtjern open-pits with a grade at zero percent Fe_tot and Fe_Mag. Any and all block model blocks that are intersected by underground wireframes considered in the Reserve that are classified as Inferred or unclassified have been stripped of their metal tonnes and the resulting tonnage has been included in the wireframe as zero grade dilution.
	(vi)		State whether the Measured Mineral Resources and Indicated Mineral Resources are inclusive of or additional to the Mineral Reserves.		The form of reporting that has been adopted is where Measured Mineral Resources and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Mineral Reserves.

					Inferred Mineral Resources are, by definition, always additional to any Mineral Resources converted/modified to Mineral Reserves.
			6.4 Specific for Metal Equivalents or Combined Grades Reporting		
	6.4	(i)	Confirm that all reports comply with section 9 (paragraphs 9.1 to 9.5) of the PERC Reporting Standard.		No metal equivalents or combined grades have been reported for the Rana Gruber Mineral Reserves.
		(ii)		Discuss and describe the basis for the grade estimation for each metal relating to the metal equivalence or combined grade	
		(iii)		Disclose all economic criteria that have been used for the calculation such as exchange rates, revenue / price curves, royalties, cut-off grades, pay limits.	
		(iv)		Discuss the basis for assumptions or predictions regarding metallurgical factors such as recovery used in the metal equivalents or combined grades calculation.	
		(v)		Show the calculation formula used.	

Section 7: Audits and Reviews

			7.1 Audits and Reviews	
Section 7: Audits and Reviews	7.1	(i)	State type of review/audit (e.g. independent, external), area (e.g. laboratory, drilling, data, environmental compliance etc.), date and name of the reviewer(s) together with their recognized professional qualifications. State the level of review/audit (desk-top, on-site comparison with standard procedures, or endorsement where auditor/reviewer has checked the work to the extent they stand behind it as if it were their own work).	No prior audits or reviews have been undertaken on Rana Gruber.
		(ii)	Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required.	

Section 8: Other Relevant Information

8.1 Other Relevant Information

Section 8: Other Relevant Information	8.1	(i)	Discuss all other relevant and material information not discussed elsewhere.	An ongoing internal PFS is underway. No additional relevant information exists for the Rana Gruber Mineral Reserves.

Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page				
Section 9: Competent Person Signoff			**9.1 Competent Person Details**	
	9.1	(i)	State the full name, registration number and name of the professional body or RPO, for all the Competent Person(s). State the relevant experience of the Competent Person(s) and other key technical staff who prepared and are responsible for the Public Report.	Mathieu Gosselin, Engineer, 135077, Ordre des ingénieurs du Québec (OIQ). 5. His relevant experience is 17 years since graduation, including 6 years as a mine planning engineer and senior mining engineer in several mining operations in Canada, Sweden and France. Mathieu has 11 years' experience as a mining engineer consultant in mineral project assessment, specialising in mineral reserve estimation. He has experience relevant to mineral reserve estimation of metal deposits. He has estimated mineral reserves for industrial minerals, phosphate, gold, coal and graphite deposits in Canada, Sweden, Saudi Arabia, France, South Africa, Ukraine and United States. Mathieu has sufficient experience in the modifying factors, mining methods, mine life and production rates, mineral reserve and mining costs estimating techniques that are relevant to the deposit under consideration and also has appreciation of extraction and processing techniques applicable to that deposit type. Tom Doidge-Harrison who completed Sections 8.3 (Mine Design) & 9.2 (Underground Schedule) falls into the category of 'other key technical staff'. Tom has over 20 years' experience exposure to the mining world, with 15 years in the technical services department at the Lisheen Mine, Ireland, (3 years as an employee and 12 years as an independent contractor). Tom has over 10 years' experience working as an independent associate of several Mining Consultancy Firms and Development Contractors, with exposure to project viability analysis, technical desktop reviews and contract pricing & bid preparation and negotiation.

				Liz de Klerk is a member of the South African Institute of Mining and Metallurgy (SAIMM) and a Fellow of the Geological Society of Africa and a registered Professional Natural Scientist (Pr.Sci.Nat. 400090/08). Senior Geologist and Managing Director in Micon's UK office. She has over 17 years of experience in project management, geological modelling and resource estimation, mine optimisation, grade control and metal accounting. Liz is a resource specialist with extensive experience in European and African mineral projects. She is recognised as a Competent/Qualified Person in terms of SAMREC, JORC and NI 43-101 in coal, platinum, chromite, manganese, iron ore and potash. Liz is proficient in 3D geological modelling and resource estimation conducted in Micromine, Geosoft Target and Datamine. Liz has experience in financial modelling, reserve conversion, mine schedules, processing and environmental laws. She is fully versed in securities exchange compliance across numerous jurisdictions, including JSE, ASX, TSX and AIM and has authored and co-authored several Competent Persons Reports, Feasibility Studies (pre-feasibility and definitive feasibility) and numerous Independent Technical Reports. Joe Burke, Senior Associate Geotechnical Engineer, fellow of the SAIMM. Joe has more than 40 years of primary expertise in rock mechanics including ground support and rock reinforcement design, rock mass characterisation, ground behaviour monitoring and understanding, mining method selection, excavation design and extraction sequencing. Other key areas of expertise are development and management of geotechnical systems fit for purpose, prevention of fall of ground programmes, identification and implementation of new technology and the application of risk management to geotechnical problems. Joe has worked on LTMS projects in Ireland, UK, India, Kazakhstan, Russia, South Africa and Zambia, where his geotechnical expertise has been used for mine design evaluation, operational reviews, training and preparation of ground control documentation. Joe started his mining career at the Avoca Mine in 1973.

		(ii)	State the Competent Person's relationship to the issuer of the report.	Section 1.4.1 The Competent Persons are independent from Rana Gruber, and listed below: • Liz de Klerk, M.Sc., SAIMM, Pr.Sci.Nat., Senior Geologist and Project Manager and Managing Director of Micon's UK office; • Mathieu Gosselin, B. Eng., Senior Micon Associate Mining Engineer and CEO of Gosselin Mining; • Joe Burke, Senior Micon Associate Geotechnical Engineer and employed by Lisheen Technical and Mining Services.
		(iii)	Provide the Certificate of the Competent Person (Appendix 2), including the date of sign-off and the effective date, in the Public Report.	Provided in Section 9.0

APPENDIX 2: Reporting of Coal

Appendix 2: Reporting of Coal			**A2.1 Specific Reporting for Coal**	
	A2.1	(i)	Confirm that the reports on Coal deposits take cognisance of Appendix 2 of the PERC Reporting Code and Sections 1 - 9 of Table 1.	Not applicable
		(ii)	Confirm that the Coal Exploration Results, Coal Inventory, Coal Resources and Coal Reserves are reported using the South African National Standard 10320 as the guideline	
			A2.2 Geological Setting, Deposit, Mineralisation	
	A2.2	(i)	Describe the project geology including coal deposit type, geological setting and coal seams / zones present.	Not applicable
		(ii)	Identify and discuss the structural complexity, physical continuity, coal rank, qualitative and quantitative properties of the significant coal seams or zones on the property.	
			A2.3 Drilling Techniques	
	A2.3	(i)	Report core recoveries and method of calculation. Confirm that core recoveries in cored boreholes are in excess of 95% by length within the coal seam intersection.	Not applicable
			A2.4 Relative Density to replace Bulk Density	

	A2.4	(ii)	Describe the apparent relative density or true relative density of the coal seam(s) determined on coal samples from borehole cores using recognized standard laboratory methods or commonly used procedures. State the moisture basis on which the relative density determination is based and the moisture basis on which the final density value is reported (in situ or air-dried basis).	Not applicable
			A2.5 Bulk-Sampling and/or Trial-mining	
	A2.5	(iii)	Describe the purpose or aim of the bulk sampling programme, the size of samples, spacing/density of samples recovered. Describe the applicability of bulk sampling or large diameter core samples towards providing representative samples for tests. Compare and comment on results obtained from bulk sampling versus exploration sampling.	Not applicable
			A2.6 Reasonable prospects for eventual economic extraction	
	A2.6	(i)	Confirm that an appropriate coal quality is reported for all Coal Resource categories. Present and discuss the type of analysis (e.g. raw coal, washed coal at a specific cut-point density) and the basis of reporting of the coal quality parameters (e.g. air-dried basis, dry basis, etc.).	Not applicable
			A2.7 Coal Resource Reporting	
Appendix 2: Reporting of Coal	A2.7	(i)	Discuss the appropriate coal quality for all Coal Resource and Reserve categories. The type of analysis (e.g., raw coal, washed coal at a specific cut-point density) and the basis of reporting of the coal quality parameters (e.g., air-dried basis, dry basis, etc.).	Not applicable
		(ii)	A Coal Resource only includes the coal seam(s) above the minimum thickness cut-off and the coal quality cut-off(s). Present and discuss the MTIS Coal Resource tonnage and quality.	
		(iii)	State the reporting basis for the Coal Resource statement with particular reference to moisture and relative density.	Not applicable
		(iv)	State the reporting basis for the Coal Reserve statement with particular reference to moisture and relative density.	

	(v)			Confirm that the Coal Reserves are reported as ROM tonnages and coal quality, and also as Saleable product/s tonnages and coal quality. Present and discuss the reporting basis for the Coal Reserve statement with particular reference to moisture content and relative density.	

APPENDIX 3: Reporting of Diamonds and Other Gemstones

Appendix 3: Reporting of Diamonds and Other Gemstones

A3.1 Specific Reporting for Diamonds and Gemstones

A3.1	(i)	Criteria applicable to diamond deposits are also applicable to other gemstone deposits	Not applicable
	(ii)	Appendix 3 provides additional criteria for reporting on diamonds and other gemstones.	

A3.2 Geological Setting, Deposit, Mineralisation

A3.2	(i)	Describe the nature of the source of the diamonds, including the rock type and geological environment. For diamond placer occurrences, describe the overburden and gravel thicknesses, as well as bedrock topography.	Not applicable

A3.3 Sampling of Diamond Projects

A3.3	(i)	Describe the type of sample (outcrop, boulder, drill-core, RC drill cuttings, gravel, stream sediment or soil) and purpose (for example: RC drilling to identify gravel thickness, large diameter drilling to establish stones per unit of volume, bulk-sample, etc.)	Not applicable
	(ii)	Discuss sample size, distribution and representivity	
	(iii)	Identify the type of sample facility, treatment rate and accreditation	
	(iv)	Discuss sample size reduction, bottom and top screen sizes and any re-crush	
	(v)	Discuss the sample processes (e.g. DMS, grease, X-Ray, Hand-sorting, etc.)	
	(vi)	Discuss process efficiency, tailings auditing and granulometry	

Appendix 3: Reporting of Diamonds and Other Gemstones	(vii)	Identify the laboratory used, type of process for microdiamonds and accreditation. Reports of microdiamond recoveries should describe the extraction process, crushing methodology and the stone counts per unit weight, as a minimum.	
	(viii)	State whether the reports of kimberlitic indicator minerals ("KIM's") or diamond indicator minerals ("DIM's") have been prepared by a suitably qualified laboratory which must be identified.	
	(ix)	Supply details of the sampling parameters for reports dealing with recoveries of diamonds or KIM's, including, but not limited to type of sample (stream sediment, soil, bulk, rock, etc.) as well as sample size, sample frequency, representivity and screen parameters are required.	
	(x)	Discuss the relevant major and trace element chemistry of any kimberlitic indicator minerals recovered. Reference relevant peer-reviewed published research articles when reporting the interpretation of mineral chemistry data for diamond exploration projects.	
	(xi)	Provide details of the form, shape, colour and size of the diamonds recovered and, where relevant, comments regarding the nature of the source of the diamonds.	
		A3.4 Bulk-Sampling and/or Trial-mining	
A3.4	(i)	Provide a table of relevant results, including (but not limited to) volume of sample, number of individual diamonds, total number of carats, sample grade, diamond value (it is not possible to evaluate diamond assortment from microdiamonds).	Not applicable
	(ii)	Discuss micro- and macro- diamond sample results per geological domain.	
	(iii)	Discuss stone-size and -number distribution (Size-frequency distribution). Include the suitability of the sample size to the stage of the project and its relevance for both SFD and valuation (assortment) purposes.	
	(iv)	State the top and bottom sieve cut-off sizes.	
	(v)	Discuss diamond breakage, where relevant	
A3.4	(vi)	Define the unit of grade measure used in the document (e.g. carat per units of mass, area or volume). Where carats per unit of mass is used, include a discussion of mass to tonnage conversion. A carat (diamond) is defined as one fifth of a gram (0.2 g) – often described as a metric carat. Any deviation from this standard should be explained in detail. Sample grade is used in the context of carats per units of mass, area or volume. The sample grade above the specified lower cut-off sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For placer deposits, sample grades quoted in carats per tonne or carats per m^3 are acceptable. In the marine placer environment Diamond Reserve grades are, typically, reconciled on a per m^2 basis.	
		A3.5 Estimation and Modelling Techniques	

	(i)	Describe in detail any estimation techniques (including geostatistical estimation, where relevant) used to determine the volume/tonnage, grade and value data, including their applicability to the deposit type.			
	(ii)	Express applicable volumes, grades and values in ranges (with appropriate clarifiers to denote lack of reliability of data). The use of "ranges" in this context has no statistical connotation	State all Diamond Resource estimates so as to convey the order of accuracy by rounding off to appropriately significant figures.	State all Diamond Reserve estimates so as to convey the order of accuracy of the estimates by rounding off to appropriately significant figures.	
	(iii)	Discuss volume/tonnage, grade and value information per identified domain (where possible, even if in a very preliminary form)	Discuss volume/tonnage, grade and value information per identified domain		
	(iv)	If grades are reported then state clearly whether these are regional averages, based on microdiamond assessment, KIM analyses, or if they are selected individual samples taken from the property under discussion.	State that the grades for the Diamond Resources are estimated from sampling data derived from the property itself	State that the grades for Diamond Reserves have been estimated from bulk-sampling and/or trial-mining	
A3.5	(v)	The occurrence of individual diamonds or microdiamonds in surficial deposits or from inadequate samples (too small to be statistically valid) from a primary or secondary rock source would not typically qualify as an exploration result. This may not be true for marine deposits, in which case further explanation and discussion would be necessary.			Not applicable
	(vi)	Report all diamond values in US$/ct. If reference is made to local currencies then provide the prevailing exchange rate as well as the effective date of the exchange rate. Also supply the date of valuation.			
	(vii)	Specify details of the type and size of individual samples (including top and bottom cut-off size, in millimetres, used in the recovery).			
	(viii)	Discuss the representivity of the type, size, number and location of the samples			
	(ix)	Discuss geostatistical estimation (where relevant) and interpolation techniques applied and their applicability to the mineral deposit type			

	(x)	Specify the number and total weight (in carats) of diamonds recovered. The weight of diamonds recovered may only be omitted from the report when the diamonds are less than 0.5 mm in size (i.e. when the diamonds recovered are microdiamonds) or when the diamonds are below a specified commercial cut-off value, which must be specified.		
	(xi)		Disclose the number of stones and the total number of carats used in the SFD, grade and value estimation and discuss the validity of this data.	
	(xii)		Note whether a strict lower cut-off has been applied or if the modelled results include incidental diamonds below the lower cut-off? Discuss the implications.	
	(xiii)		Present aspects of spatial structure analysis and grade and value distribution	
	(xiv)		Present aspects of micro and macro- diamond sample results per domain	
	(xv)		Present aspects of the effect on sample grade and value with change in bottom cut off screen size.	
	(xvi)		Describe any adjustments made to size distribution for sample plant performance and performance on a commercial scale, where applicable.	
A3.5	(xvii)		Confirm that valuations have not been reported for samples of diamonds processed using total liberation methods (which are commonly used for processing kimberlite exploration samples and which are based on microdiamonds).	
	(xviii)		Justify the use of microdiamonds to extrapolate diamond value at depth through the presentation of geological and size frequency distribution models	
	(xix)		State the name, qualifications, experience and independence of the recognised expert responsible for the classification and valuation of the diamond parcel(s).	
	(xx)		For each diamond parcel valued, supply information relating to the number of stones and the carats and size distribution using a standard progression of sieve sizes or diamond mass ranges for each identified geological domain. For marine or alluvial placers the average price per average stone size may be used instead of a size distribution	
	(xxi)		State that the valuation is on the run-of-mine diamond parcel (i.e. not partial parcel)	
	(xxii)		Define the unit of grade measure used in the resource/reserve estimation (e.g. carat per units of mass, area or volume). Where	

			carats per unit of volume is used, include a discussion of mass to tonnage conversion.	

A3.6 Resource/ Reserve Classification Criteria

A3.6	(i)		A Diamond Resource/Reserve must be described in terms of volume/tonnage, grade and value. A Diamond Resource/Reserve must not be reported in terms of contained diamond content unless corresponding tonnages/volumes, grades and values are also reported. The average diamond grade and value must not be reported without specifying the applicable bottom cut-off screen size.	Not applicable
	(ii)		Discuss issues surrounding stone frequency (stones per cubic metre, per tonne, or per square metre) and stone size (carats per stone) relating to grade (carats per cubic metre, per tonne or per square metre). Consider the elements of uncertainty in these estimates and develop the Diamond Resource classification accordingly.	
	(iii)		Present aspects of: - micro and macro diamond sample results per domain; - global sample grade per geological domain and local block estimates in the case of Indicated Resources; - spatial structure analysis and grade distribution; - stone size and number distribution, and - effect on sample grade with change in bottom cut off screen size. Note that a Diamond Resource/Reserve may not be declared without reference to an SFD.	
	(iv)		Sample grade - the sample grade above the specified lower cut-off sieve size as carats per dry metric tonne and/or carats per 100 dry metric tonnes; - for alluvial deposits, sample grades quoted in carats per (100) square metre or carats per (100) cubic metre are acceptable be accompanied by a volume to weight basis for calculation, where relevant; - adjustments made to size distribution for sample plant performance and performance on a commercial scale;, - the total number of diamonds and the total weight of diamonds greater than the specified and reported bottom cut-off sieve size; - the weight of diamonds may only be omitted when the diamonds are considered too small to be of commercial significance, and - this lower cut-off size should be stated.	

Appendix 3: Reporting of Diamonds and Other Gemstones	A3.6	(v)	Value - diamond valuation is a highly specialized process and is only possible on parcels containing appropriate numbers of macro-diamonds; - it is not possible to evaluate diamond quality from microdiamonds; - Classification of diamonds as, for example, gem, or near gem and industrial, should be made by recognized experts. - valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing kimberlite exploration samples; - the number of stones and the total number of carats used in the grade and value estimation should be disclosed and accompanied by a discussion of the validity of this data; - the accreditation of the Valuer should be disclosed. Valuations of partial parcels of diamonds should not be used as a basis for the estimation of average revenue from a diamond deposit; - details of parcel valued, number of stones, carats and size distribution using a standard progression of sieve sizes for each identified geological domain; - average valuation per sieve size; - estimation of value with size; - assessment of diamond breakage; - average USD/carat and/or USD/tonne value with change in bottom cut-off; - minimum parcel size for representative valuation; - has a strict bottom cut-off been applied, or does the modelled value include incidental diamonds below the bottom cut-off?, and - the basis for the price (e.g., dealer buying price, dealer selling price, etc.) should also be stated.	
			A3.7 Audits and Reviews	
	A3.7	(i)	State that the samples were sealed after excavation and discuss the chain of custody from source to reporting of results	Not applicable
		(ii)	Discuss security standards in sampling plant and recovery sections of bulk-sampling/trial-mining programmes for macrodiamonds	
		(iii)	Describe the type of facility, treatment rate, and accreditation (if any) of the sample plant. It is especially important to discuss the bottom screen size, top screen size and recrush parameters, in addition to the concentration methodology (e.g. pan, DMS, Optical, etc.) and the recovery technique (e.g. grease, X-ray, hand-sorting, etc.).	
		(iv)	Discuss valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones;	

		(v)	State whether core samples were washed prior to treatment for microdiamonds and discuss the use of diamond drill-bits	
		(vi)	State whether any audit samples were treated at alternative facilities	
		(vii)	Discuss QA/QC of sampling results, including the process efficiency, tailings auditing and granulometry	
		(viii)	Discuss the recovery of tracer monitors used in sampling and treatment	
		(ix)	Discuss geophysical (logged) density and particle density, where relevant	
		(x)	Discuss cross-validation of sample weights, wet and dry, with hole volume and density, moisture factor	

APPENDIX 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials				
			A4.1 Specific for Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials	
APPENDIX 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials	A4.1	(i)	Appendix 4 provides additional criteria for reporting on Industrial Mineral, Cement Feed Materials and Construction Raw Materials deposits.	Not applicable
		(ii)	Describe the exploration or geologically specific specialised industry techniques appropriate to the minerals under investigation	
		(iii)	Describe the nature and quality of sampling or specific specialised industry standard measurement tools appropriate to the minerals under investigation	
		(iv)	Describe the appropriate saleable product qualities being reported. Describe the basis for reporting (physical or chemical parameters, air-dried basis, dry basis, etc.). Reporting of deleterious chemical elements or physical parameters is required.	
		(v)	State assumptions regarding in particular: extraction methods, infrastructure, processing, environmental and social parameters. Where no mining related assumptions have been made, this should be explained.	
		(vi)	Disclose and discuss the marketing parameters, customer specifications, testing, and acceptance requirements.	
		(vii)	Discuss the nature, amount and representativeness of metallurgical/processing studies completed which form the basis for the various saleable materials which may be priced for different chemical and physical characteristics.	

		(viii)	Present the defined reference point of the reported tonnages and grades/qualities. Where the reference point is the point is a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. State whether the tonnages and grades/qualities of the material delivered to the plant or after recovery.	

APPENDIX 5: Reporting of Dimension Stone, Ornamental and Decorative Stone

			A5.1 Specific for Reporting of Dimension Stones, Ornamental and Decorative Stones	
APPENDIX 5: Reporting of Dimension Stone, Ornamental and Decorative Stone	A5.1	(i)	Appendix 5 provides additional criteria for reporting on Dimension Stone, Ornamental and Decorative Stone deposits.	Not applicable
		(ii)	Describe the exploration or geologically specific specialised industry techniques appropriate to the minerals under investigation	
		(iii)	Describe the nature and quality of sampling or specific specialised industry standard measurement tools appropriate to the minerals under investigation (see also Market Quality evaluation below)	
		(iv)	Describe the appropriate saleable product technical (geo-mineralogical and structural) and market qualities being reported and their characteristics that refer to the different qualities. Describe the basis for reporting (physical or chemical parameters, mineralogical parameters etc.). Reporting of deleterious chemical elements or physical parameters is required, to avoid any problem after installation of finished products.	
		(v)	Describe in detail and state the real geological definition and denomination of the investigated material, making clear distinction between the dimension stone commercial name (marble, granite, stone, etc.) and the real petrographical-geological name (e.g. a serpentinite is commercially named as "green marble" in the Dimension Stone industry)	
		(vi)	State assumptions regarding in particular: extraction methods, infrastructure, processing, environmental and social parameters. Where no mining related assumptions have been made, this should be explained.	
		(vii)	Disclose and discuss the marketing parameters, customer specifications, testing, and acceptance requirements. Describe the methodology utilised to compare the quality of the material and products under investigation with the quality of similar comparable material already in the market.	
		(viii)	Present the defined reference point of the reported tonnages/volumes and market qualities/grades. Where the reference point is the point is a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. State whether the tonnages and grades/qualities of the material delivered to the plant or after recovery. In particular describe the methodology to calculate the recovery rate and state to which product it refers	