REPORT

Executive Summary

Dannemora Mining Project

Submitted to:

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Distribution List

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INTRODUCTION & BACKGROUND

In February 2021, Dannemora Koncern AB ('DKAB') commissioned Golder Associates ("Golder") to undertake and complete a Scoping Study ("SS" or "Study") for the recommencement of mining at the Dannemora Mine ("Dannemora" or "Project"), located in eastern Sweden.

Dannemora Koncern AB ('DKAB') was acquired by Grängesberg Exploration AB in August 2020. Grängesberg Exploration AB was subsequently acquired by Metallvärlden i Sverige AB in November 2020, and later changed its name to Grängesberg Exploration Holding AB (GRANGEX). In December 2020/January 2021, the new Grängesberg Exploration Holding AB raised MSEK 47 to restructure the business of the company and to undertake studies with the objective to recommence mining at the Dannemora Mine.

The Dannemora Mine is located near Österbybruk, in the municipality of Östhammar, in Uppsala county, some 105 km northeast of Stockholm (Figure 1). Mining in Dannemora has a long tradition and may have commenced as early as the 13th Century. Throughout its life, the mine was one of the most important employers in the area. The first concentrator at Dannemora was built in the beginning of the last century. During the last active period (2012 to 2015), when the mine was operated by Dannemora Magnetit AB (DMAB), the mine and plant provided employment for ca. 117 employees and ca. 110 contractors.

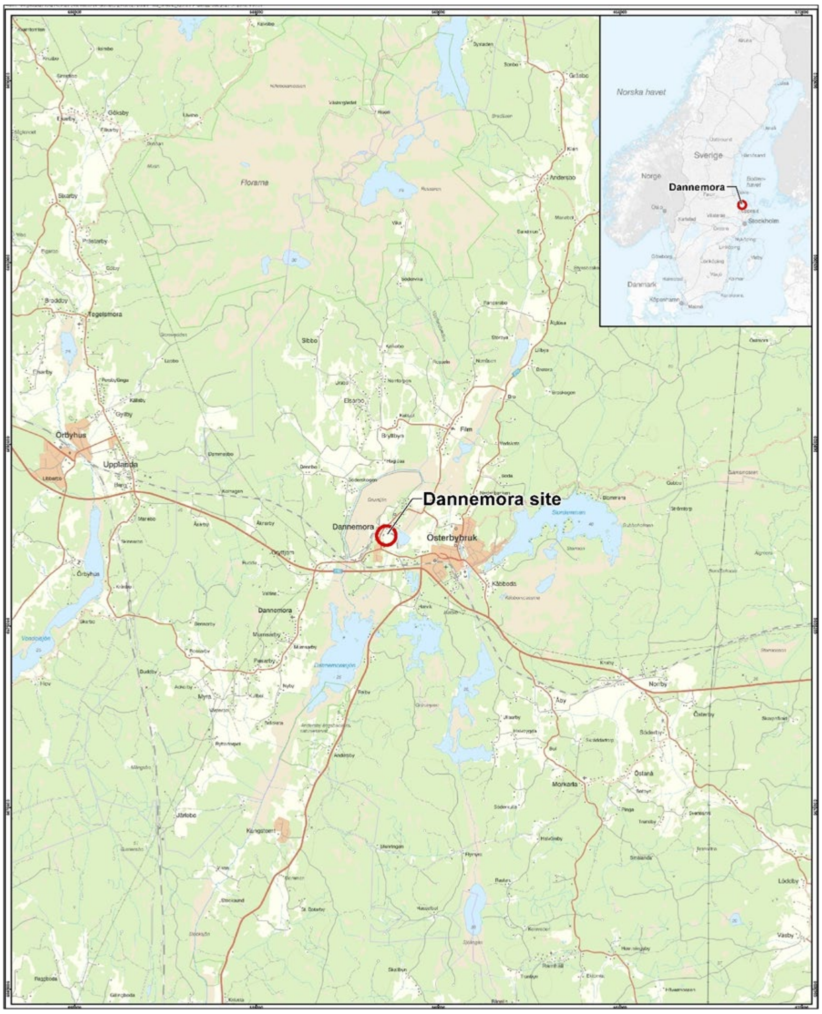

Figure 1: Location of the Dannemora Site

It is GRANGEX's intention to recommence mining at Dannemora using the sublevel caving (SLC) mining method, and utilise backfill to negate the need for tailings storage on surface. Pre-production works (including dewatering of the workings) are envisaged to take ca. 2.5 years, with a ramp up to full production of ca. 3 million tonnes ("Mt") Run of Mine ("ROM") per year, equating to ca. 1.1 DMt (dry metric tonnes) of saleable Magnetite iron ore concentrate (ca. 67.9% Fe), over a 7 to 8 year life-of-mine ("LOM"). The LOM is based on a current Mining Inventory of ca. 22.67 Mt at grade of 35.97% Fe.

Dannemora has direct access to a rail line, with direct connection to the Port of Hargshamn ca. 38 km away.

The recommencement of mining at Dannemora presents a significant opportunity. Re-establishing production will require a 2.5 year capital programme, including, the dewatering of the mine, refurbishment of the ore hoisting mechanism and the material handling system at the port, the implementation of a wet process to concentrate the ore to an acceptable marketable quality and grade, and the social impact upon a historic mining region. The recommencement of mining at Dannemora looks to minimise environmental impacts by making use of the existing infrastructure available to the project.

The Dannemora Mine is covered by a valid exploitation concession/permit titled 'Dannemora' (Figure 2), which allows for the extraction of iron, lead, zinc, copper, gold, silver and manganese, and is valid for 25 years from 2007 when it was granted (valid until 1 January 2032). If mining activities are still on-going at the time the permit expires, it will be extended in 10-year periods, without the need for a new application.

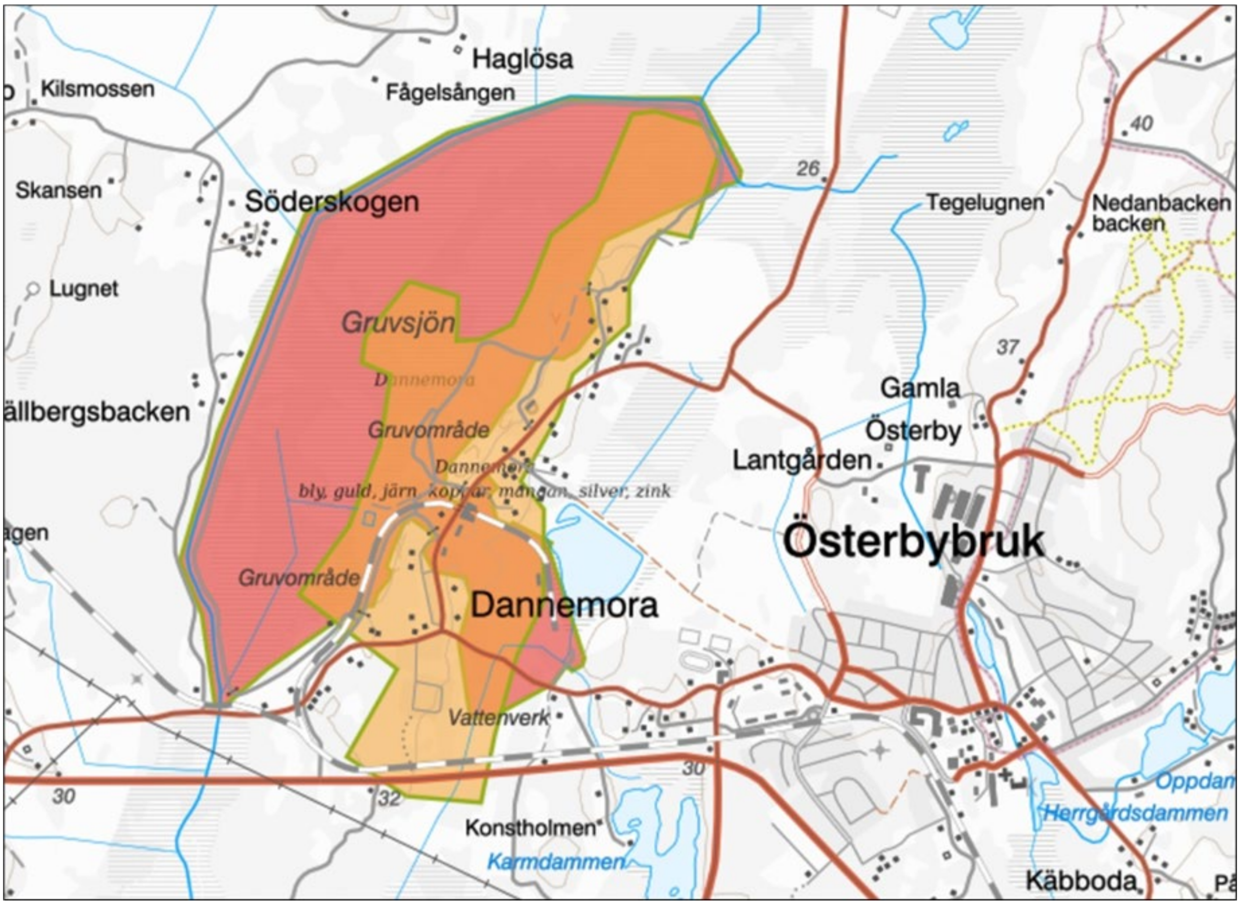

Figure 2: Mining concession area (orange) and mine infrastructure land allocation (red) at Dannemora (Source: SGU, August 2013)

Project Status

This Scoping Study is the first step in the process of undertaking a thorough review of the potential to reopen the Dannemora Mine. A necessary condition for the recommencement of mining is the opportunity to produce a high grade iron ore with impurities at levels accepted to the market. The focus for this study is to demonstrate the likelihood of the production of a High Grade Iron concentrate. Testwork has concluded that the material needs to be ground to very fine size fraction. Samples, representative for the operation from 2012 to 2015 have been ground to minus 40 microns (- 40 µm). By grinding the samples this fine it has been possible to achieve a concentrate grade of 68% Fe.

Based on the results of the Scoping Study the plan is to proceed to a Preliminary Feasibility Study (PFS), with the final objective to proceed to a Definitive Feasibility Study (DFS), which should be achievable based on existing knowledge of the Dannemora Mine and its related issues. Key activities after the completion of the Scoping Study will be to finalize the necessary documents for submission of an Environmental Impact Assessment ("EIA") to support an Environmental Permit Application.

Regulatory & Approvals

The Swedish Environmental Code (SFS 1998:808) provides the legal environmental framework for environmental matters. The first step in the Swedish permitting process is consultation with the County Administration Board ("CAB"), the Local Environmental Department ("LED") and potentially affected private individuals.

After finalising the EIA report and the technical description of the activities and facilities, a formal permit application (legal) is prepared. All reports, drawings and documents are thereafter submitted to the permitting authority (Environmental Court or the Permit office at the CAB).

Geology

The Dannemora deposit is contained within the regional host rocks of the Leptite Formation, an assemblage of Svecofennian (of Lower Proterozoic age ca. 1.8 to 1.9 Ga) metavolcanics and subsidiary metasediments. The principal units of the Leptite Formation are steeply dipping along the limbs of northeast-trending (ca. 030° NE) isoclinal fold structures and occur between large granitoid intrusive bodies. The lithologies have undergone varying degrees of metamorphism related to both regional and local thermal alteration activity.

In the Dannemora mine area, the metavolcanic and metasedimentary rocks are shaped into two parallel synclines separated by an isoclinal anticline which together plunge gently to the northeast. The principal mineralisation is confined to the easternmost syncline, though exploration to date has only identified smaller bodies associated with the westernmost structure.

Mineralization

The magnetite mineralization is mostly restricted to the upper unit of the upper formation at Dannemora and is normally strata bound within dolomitic units.

Exploration work to date has identified about 25 individual mineralised bodies situated along a 3 km strike length of the syncline and surrounding structures at varying depths from surface. The bodies occur within a 400 - 800 m wide stratigraphic thickness and display a thinning and thickening, which is commensurate with their positions relative to the primary structures, i.e., thinning and fragmenting within the limbs of the syncline and thickening towards the keel of the Dannemora syncline. The limbs dip at ca. 85° near surface and shallow to ca. 60° at the 350 m level of the mine. The location of the mineralized bodies in long-section and plan in relation to the mine infrastructure is shown in Figure 3.

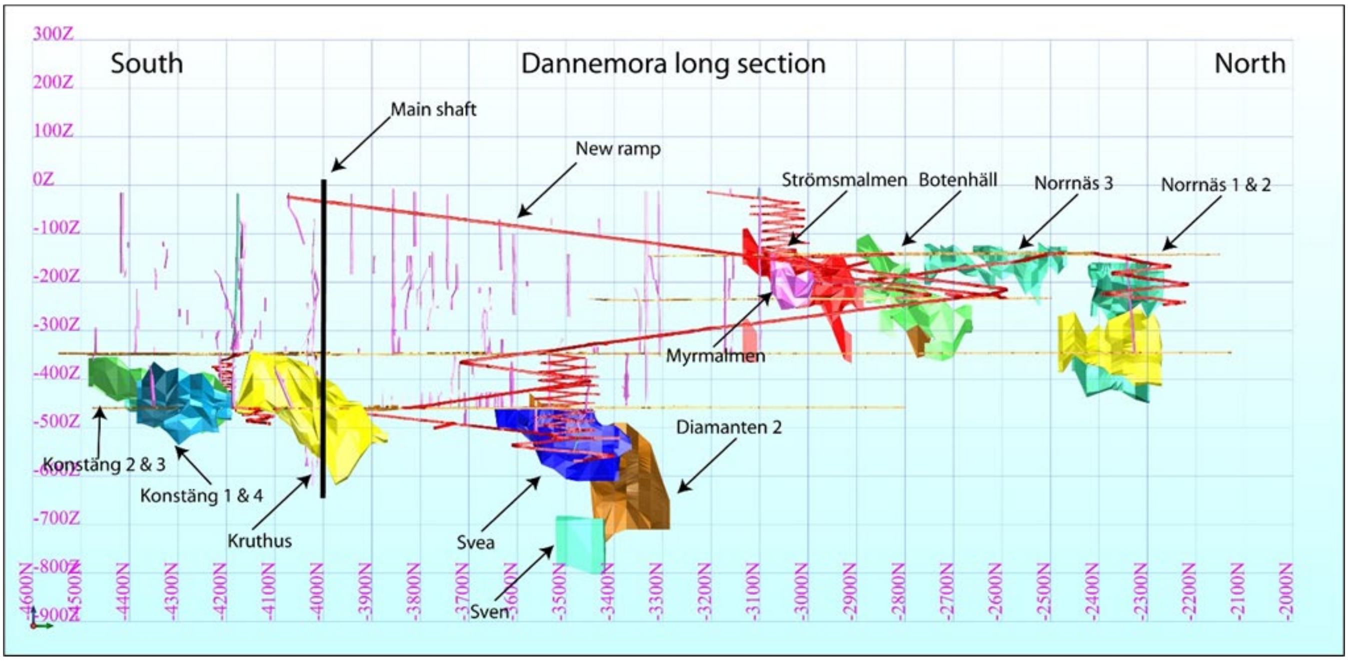

Figure 3: Location of existing mineralised bodies in relation to mine infrastructure (long-section)

Based on this mineralogy and average compositional analysis, the mineralisation has been commonly categorised as a manganese-rich skarn iron ore (with an iron content of 30 to 50% and a manganese content of 1 to 6%) and manganese-poor skarn iron ore (with an iron content of 30 to 50% and a manganese content of 0.2 to 1%).

Mineral Resource Estimate

The Estimated Mineral Resource presented in this Scoping Study is compliant with the principles as set out in JORC 2012, and has been compiled under the supervision of Mr. Thomas Lindholm, GeoVista AB, who is a Fellow of the Australasian Institute of Mining and Metallurgy, and a Competent Person qualified to report on mineral resources, based on his training and experience in exploration, mining and mineral resource estimation of iron ore, base and precious metals.

Table 1 presents a summary of the Iron Ore Resources for Dannemora Mine as of 31 December 2014.

Table 1: Mineral Resource Estimate for Dannemora Mine (31 December 2014)

	Tonnes	Fe%	Mn%	S%
Measured	15,257,000	39.62	1.87	0.24
Indicated	9,934,000	38.62	2.15	0.19
Total Measured + Indicated	**25,191,000**	**39.23**	**1.98**	**0.22**
Inferred	4,560,000	37.23	2.36	0.07
Inferred (Tailings)	1,700,000	ca. 21 - 22		
Total Inferred	6,260,000			

In addition, with the development of a new beneficiation plant, some of the tailings (ca. 1.7 Mt at an average grade of 22 % Fe) deposited underground from the historical sorting process can be considered to have a “reasonable potential for economic extraction” and can be considered for possible exploitation; and as such, have been classified as being ‘Inferred’ under JORC.

An estimated Mining Inventory for the mine on 31 May 2015 (at time of closure) based on the Mineral Resource Estimate presented in Table 1, and the subtraction of ore mined between 31 December 2014 and 31 May 2015 is presented in Table 2. The estimated Mining Inventory is based on mineral resources, considering expected or actual modifying factors, including waste dilution and ore losses respectively. This estimated Mining Inventory is non JORC compliant.

Table 2: Mineral Inventory reported for Dannemora Mine (31st May 2015)

All Orebodies	Diluted tonnes (ton)	Diluted Fe-grade (wt%)	Mn-grade (wt%)	S-grade (wt%)
Total	22,691,589	35.97	1.96	0.20

EXPLORATION POTENTIAL

The mine field holds the potential for further increasing resources through exploration. At present, most of the interpreted mineralised bodies are open at depth due to the shallow nature of the majority of drilling.

An Exploration Target (as defined in Clause 17 of the JORC Code) report was produced by DMAB in October 2013. Using geological knowledge, existing drillhole assays, down-hole magnetic surveys, and geophysical surveys, tonnages and grade of potential mineralisation down-dip from existing mineralised bodies were estimated.

The total Exploration Target tonnage is estimated to be between 20 Mt to 35 Mt with a grade ranging from 34% to 39% Fe, from a total of seven Exploration Target areas identified. Historical and recent drilling results have been used for this estimate. Magnetic ground surveys and magnetic down-hole surveys have also been used. The magnetic surveys are both historic and recent but all interpretations from the magnetic surveys are based on recent interpretations by geophysicist Lars Edberg.

The Competent Person for DMAB, at the time of reporting, Mr. Peter Svensson, accepted responsibility for the estimate. The potential quantity and grade of the Exploration Targets is conceptual in nature and there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

Mining

As part of the proposed recommencement of mining activities at the Dannemora Mine an initial development and mining plan has been developed.

Before the commencement of any mining, the mine will need to be dewatered. The average inflow of water into the mine during operation is estimated to be ca. 1,125 m^3/ day. It has been estimated that pumping will commence at the 308 m level. This will be followed by the excavation of caverns for the underground crusher and associated facilities, the raise-boring of ore passes from the main level (460 m), and the installation of the central shaft hoisting system.

The mining plan has been developed based on existing plans that were developed during the previous period of production between 2012 and 2015. The plan covers not only development of ramps and drifting in ore, but also the need for investment in the form of shafts and drifts in waste to provide for necessary ventilation.

To reach a production rate of 3 Mt/yr in a cost efficient and environmentally acceptable manner, revisions to the ore/waste transport system are proposed. During the first year after recommencement of mining, development in the form of waste drifts and shafts will need to be prioritised. This means that the production of iron ore during Year 1 will be limited to ca. 2.3 Mt.

Additional underground capital development will comprise 8,566 m of access development, and 7,596 m of SLC production drives in preparation for the commencement of mine production, with development waste being dumped into old stopes.

The means of transport underground will differ completely from previous when production recommences, with mine trucks being employed to transport ore to underground ore passes feeding an underground crusher, from where ore will be hoisted via the central shaft hoisting system by skip to surface.

There are ore zones in both the Northern and Southern areas of the mine which are partially developed, and can be readily accessed for the recommencement of mining to achieve a target production rate of 3 Mt/yr.

Due to environmental aspects, all future tailings produced will be stabilized and backfilled in previously worked out stopes underground.

In general, the strength of the rock mass is good, with UCS values typically >200 MPa. This will enable the use of a combination of 50 mm fibre-reinforced shotcrete in the back, and systematic bolting at 1.5 m centres; with 25 mm diameter, 2.5 m long steel bolts.

The historical ventilation system comprised 4 ventilation raises, and 2 declines with a 260 m^3/s capacity. This is considered sufficient for future planned operations.

Ore production, including development drifts in ore, will be undertaken by the company's own staff, whilst development in waste will be undertaken by contractors.

Northern Area - Development

Current, in-place, development will allow access to ca. 393,000 t of inventory ore available for start-up production in the Northern Area of the mine (Figure 4).

Norrnäs 1 & 2 will require ramp development from sublevel 249 m to sublevel 273 m, with the ramp been driven past each sublevel drift by at least 18 m, so as not to disturb the development of the production drift on the sublevel when the ramp is continued downwards to the next sublevel. This will also benefit the stability of the entrance from the stopes to the production drift.

It is recommended that the ramp is driven whilst production drilling at Norrnäs 3, Botenhäll and Strömsmalmen is ongoing. Ramp development in waste to the production sublevels will result in development and production of ore of ca. 76,700 t becoming available.

Norrnäs 3 sublevels at 143 m and 158 m are ready for longhole drilling, with an estimated inventory of ca. 250,000 t of ore available.

Botenhäll sublevels at 215 m and 235 m are developed and require an opening slot raise, but there is no information on the meterage of longhole drilling required or the potential inventory from these two sublevels.

In Strömsmalmen, sublevel 196 m is developed, except for the opening of a slot raise. Expected inventory tonnage is ca. 66,000 t of ore.

Southern Area and Svea - Development

The mining at Svea can be started as soon as the drifts have been inspected and any remediation work completed. The ramp down to the next sublevel needs to be started right away in order to develop and maintain a reasonable rate of production. Since the orebodies of Svea, Konstäng and Kruthus (Figure 4) are tapering towards depth it is very important to start the development of the H-ramp towards Diamanten 2 (D2) as soon as the dewatering programme permits. This will be done in connection with the development of the cross-ramp (directly opposite the portal to the H-ramp towards D2), as well as the development of the ramp down towards KH sublevel 499 m, and the development drifts to KH sublevel 499 m and KÄ sublevel 495 m. This will provide the required production on at least four fronts. In order to ventilate D2 correctly, ventilations raises will be developed at an early stage.

The exploration drifts from the H-ramp D2 need to be developed in connection with the development of the H-ramp. If the exploration drifts are postponed, this will result in the production of ore from D2 being disrupted, as well as the installation of infrastructure in the H-ramp (electricity, water etc.). It will be advantageous to start development of the drift to D2 as soon as the dewatering permits (i.e., pumping of water from Svea). In this way there will be no disturbance to the intersection of D2/Crossort when production starts in Svea. Waste rock produced can be transported to and dumped in nearby stopes close to the 460 m main level.

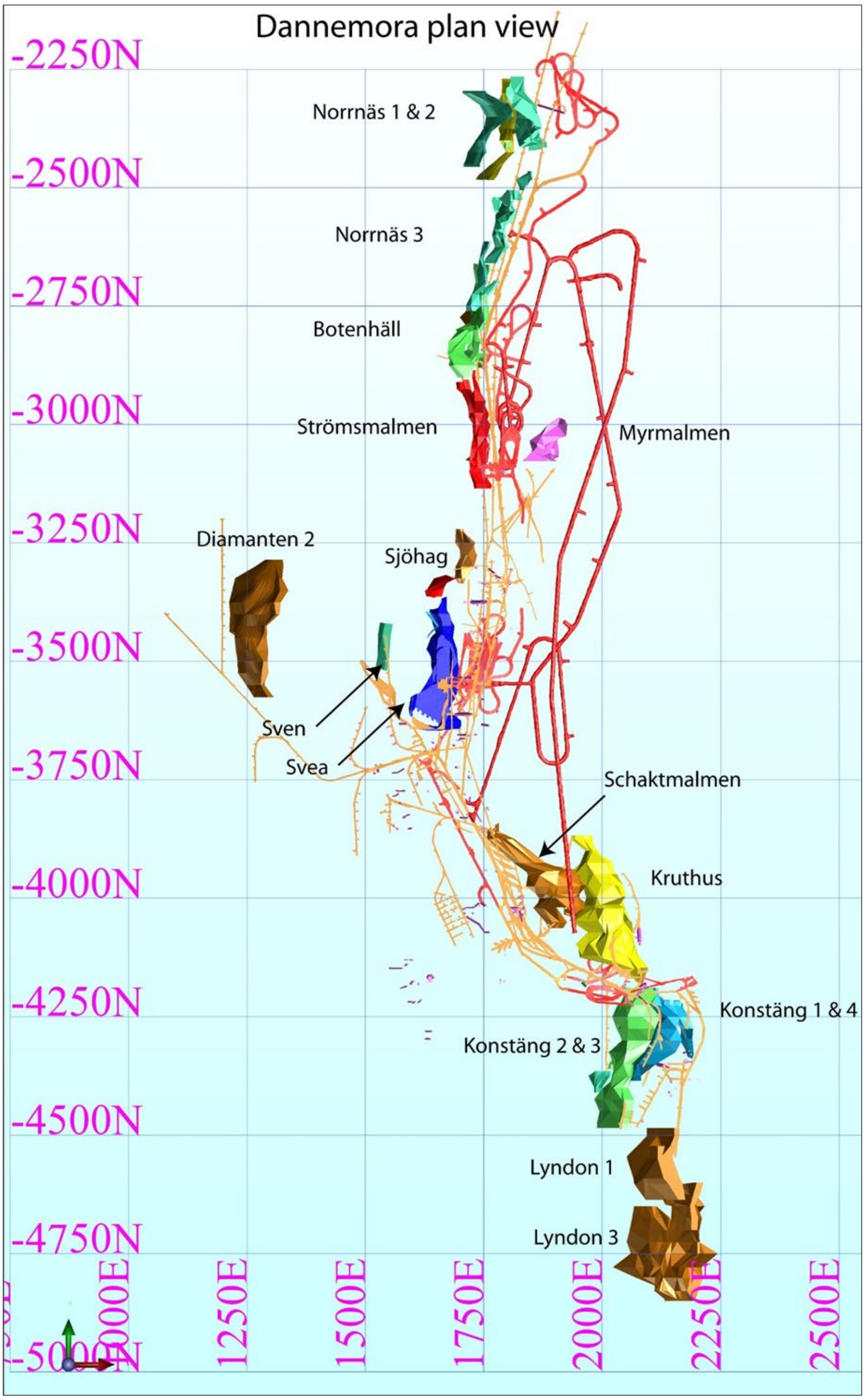

Figure 4: Mineralised bodies Northern & Southern Areas

It is assumed that the annual production of ROM ore will be 3.0 Mt, based on a shift pattern of 7 days x 2 shifts, giving 14 shifts per week. The length of each shift will be 10 hours. Due to vacations and other holidays, maintenance stops etc. the affective days per year will be reduced to 350. The availability of machinery is estimated to be 85%, including planned maintenance. Personnel availability is assumed to be 75% (for manually operated machines based on transport, breaks and meetings). Therefore, the effective time per shift will be 10 hrs x 0.85 x 0.75 = 6.375 hours/shift or 12.75 hours/day. If this is reduced by 1 hour/shift for moving equipment and 1 hour/shift for changing drill bits the effective time will be 8.75 hours/day (based on previous experience at Dannemora and other Swedish mines).

It is proposed that the following mining equipment is required for the recommencement of mining activities at Dannemora to meet production targets, including: 2 drilling rigs for drifting, 3 longhole rigs, 2 loaders, 3 or 4 trucks (depending on size), 1 bolter, and 1 scaler, plus ancillary support vehicles.

It is recommended that diesel powered equipment be replaced with electrically powered equipment at the end of the first leasing period. This is important, both for reaching climate goals and to reduce the mine´s energy costs, in particular the costs for ventilation, which makes up about half of the mine´s energy consumption.

As part of any future study a comparison between using contract miners versus owner miners will be explored.

Mineral Processing

Available information from prior mining periods shows that extracting ore from different parts of the deposit resulted in highly varying ultimate lump ore, coarse size fraction qualities at generally low iron levels, high levels of manganese, and most often high sulphur and magnesite levels. The various ore types will likely require extensive processing to reach more attractive marketable grade levels.

As very little is known about the mineralogy of the deposits, a reasonably representative sample from existing archived production samples was created and subjected to a QEMSCAN PMA (Quantitative Evaluation of Materials by Scanning Electron Microscopy Particle Mineral Analysis) level study at SGS laboratories. In addition, an optical microscope study revealed no major iron ore minerals other than magnetite. There are other Fe bearing minerals present, which of course would be rejected in the magnetic separation process for magnetite beneficiation.

Based on information of mineral constituents, their liberation characteristics, and Davis Tube testing at a particle size guided by the initial information, a small bench test programme was undertaken to evaluate the possibility of obtaining a saleable concentrate, assuming promising results from the initial studies.

Archived production concentrate and tailing samples were available for analysis. These were combined in similar proportions to the historical records for the years prior to the operation’s shutdown in 2015 by experienced personnel still available from that period. Hence, the samples may be considered to represent the average feed to the processing plant over the latter years of operation, with the main emphasis on the last months of operation.

The analysed Fe head grade correlates well with the historical average ROM grade of 33.5% Fe(tot), versus 32.5% for the test sample. A 70 kg sample was shipped to SGS in Lakefield, Ontario, Canada for mineralogical analysis and bench testing.

Previously, processing of the Dannemora iron ore consisted of crushing, screening and coarse rock magnetic cobbing using a band separator, to produce lump ore and coarse size fractions only. A low-intensity magnetic separator for dry processing (Mörtsell type) of a downstream size fraction was also used, however, a very high loss of magnetite was experienced.

To maximize magnetite recovery a dry preconcentration method may be feasible, thus reducing the overall comminution energy demand. Such processing is technically possible by using medium-intensity magnetic separators, with enhanced comminution and screening to produce relatively fine, dry size fractions for preconcentration using HPGR (High Pressure Grinding Rolls) for the final crushing stage. However, that applies where the ore has a maximum 0.8% moisture and the final size fraction for sufficient mineral liberation is < 1.2 mm. In case of Dannemora, a wet process was investigated to increase ore recovery, by fine grinding at a size fraction < 6.3 mm for beneficiation to a high-grade concentrate.

It may be possible to reject slightly more low-magnetite grade waste than currently projected. HPGR pilot testing to produce feed to an optimized medium-intensity magnetic separator testing would be necessary for the next level of study.

Until more extensive information is available about the moisture conditions of the Dannemora ore, the current concept is to have a < 6.3 mm preconcentrate feed to a ball mill, with a rougher LIMS (Low Intensity Magnetic Separator) to follow. Relatively coarse (P(80) 318 µm) waste would be rejected, and rougher concentrate fed to a VTM unit and then finished in at least two LIMS stages. When the cobber preconcentrate became available after the completion of the test series, the wet test conditions were modified by grinding to P(80) 318 µm followed by one-stage rougher, with grinding rougher concentrate to P(80/) 44 µm and the use of LIMS in two finishing stages. Figure 5 presents the test flowsheet used in this study.

From the test programme, a reduction to < 0.05% S was achieved, along with the reduction of other important detrimental elements, such as Mn and Mg. The reduction to of these elements will potential enhance the sale of the concentrate and make it more technically attractive.

To increase the concentrate Fe level further without grinding to a finer size level, the currently most common method is reverse flotation of silicates. A relatively new physical (electromagnetic) method exists that replaces flotation in many applications. In a recent example for a similar situation with regard to particle size distribution and concentrate grade, the Fe% was increased from 68% to 70.5%, while achieving a very high recovery (98+%).

From the initial testwork, the final concentrate level before a dewatering LIMS stage was 67.5% Fe and 0.05% S. After a dewatering LIMS process stage, the grade was increased to 67.9% Fe and 0.04% S.

There is one aspect of sulphur reduction that was not studied as part of the Scoping Study. From the sample used in the current testing programme, there appears to be no major ferromagnetic pyrrhotite complication. Rather, it seems that there are mainly fine-grained pyrite inclusions and gangue mineral grains in the magnetite. Hence, the possibility exists that sulphur reduction may be accomplished by the electromagnetic (high-frequency oscillating magnetic field) method in a similar way as silicate reduction is, thereby negating the need for chemical flotation.

In conclusion, with the metallurgical sample collected from archived samples of sold products and tailing materials taken to represent the expected average ROM assay and mineral characteristics of the deposits, it was shown to be possible to produce a saleable concentrate by applying advanced comminution, preconcentration and efficient beneficiation.

Dr. Bo Arvidson who has vast experience in maximizing magnetite recovery using medium-intensity magnetic separators, designed and managed the metallurgical testwork undertaken as part of the Scoping Study, as well as the plant design and process flowsheet.

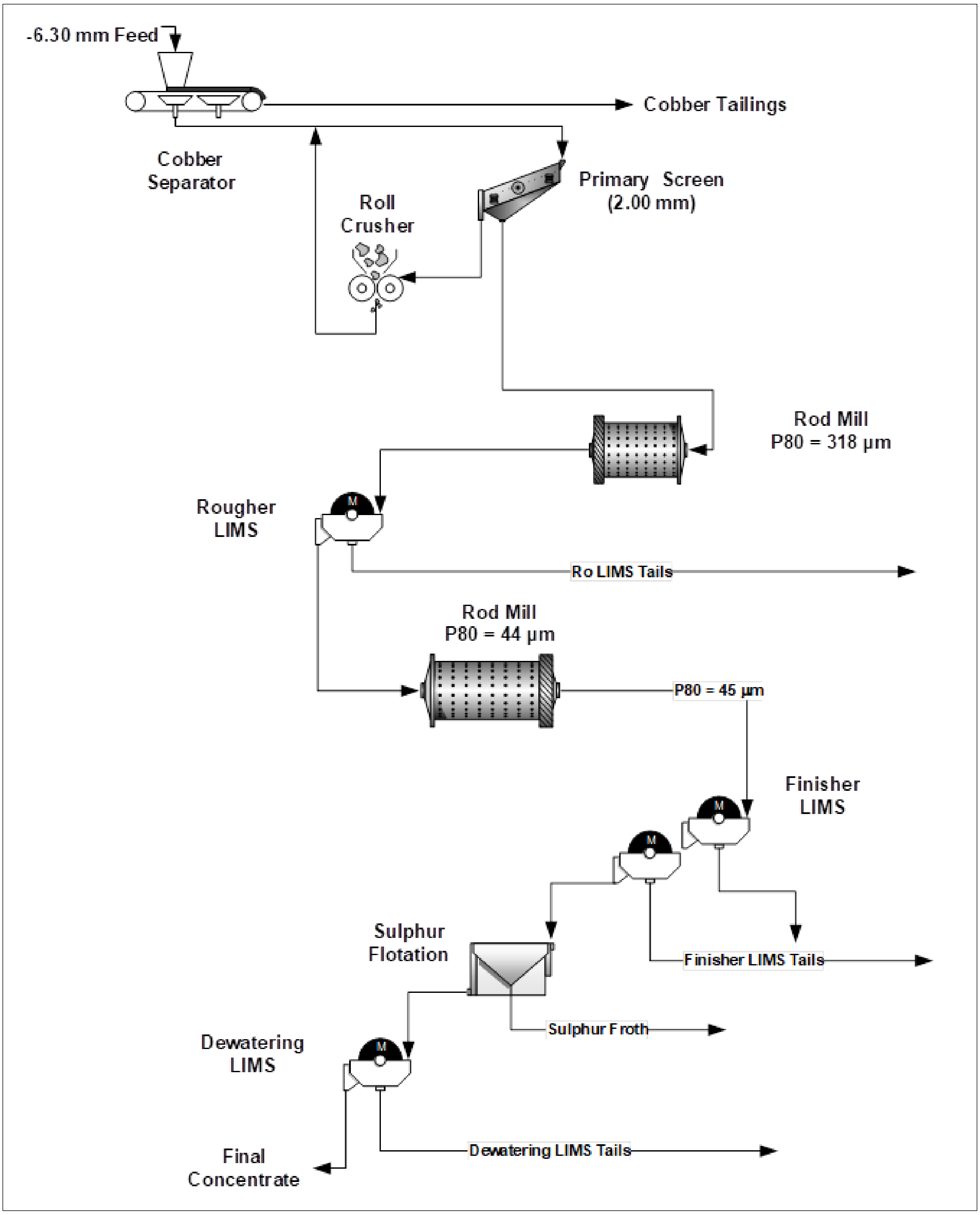

Figure 5: Test flowsheet

Due to the possible change from dry to wet processing of the ore, and the planned backfilling of the process waste into the mine, different amendments for stabilization of the waste were tested. The binders included cement, fly ash and cement kiln dust (CKD). To study the impact of the backfilling of the mine on the groundwater quality, several leaching tests were performed (static and kinetic tests). In general, the waste from the wet process in combination with binders had a very low permeability and leaching of the different metals was low.

Infrastructure

The current mine site has been operational for more than 100 years. There are two main ramps accessing the underground workings, plus a central shaft to a depth of 610 m. Figure 6 presents an aerial photograph of the mine site, with the proposed new infrastructure.

Two powerlines, each carrying 20 MW (total 40 MW) are available to the site from the main national power supply system. The power supply will have to be connected to the mine, with an estimated power requirement of 20 MW.

Ore will be transported from the mine site to the port of Hargshamn (ca. 38 km away) by rail, where it will be stockpiled under cover before being loaded onto ships for transport to ports of discharge which may include; Szczecin and Swinoujcie in Poland, Rostock, and Hamburg in Germany, the ARAG area (Amsterdam-Rotterdam-Antwerp-Ghent (Netherlands and Belgium) and Port Talbot in Wales. The projected annual tonnage of ca. 1.2 WMt/yr (wet million tonnes) from the mine will require ca. 3 ships per month.

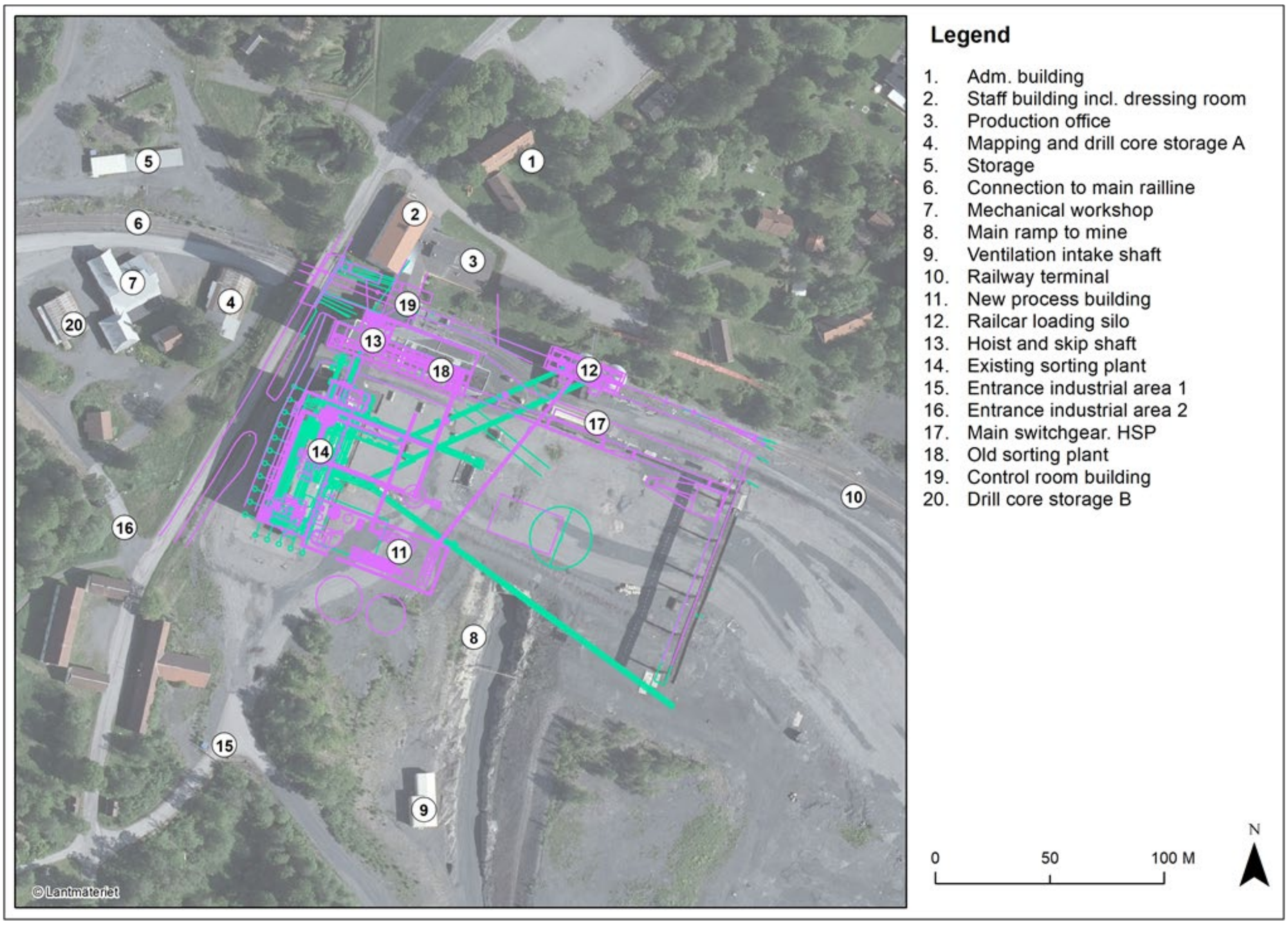

Figure 6: Dannemora Mine Site

Environmental & Social

The terrain at Dannemoragruvan is rather flat with small height differences between lakes, wetlands and wooded areas. Habitats also consist of woods and significant parts of the area consist of wetlands. Some of these wetlands have been created by humans through lowering of water levels in lakes or through bilge pumping.

The mineral deposits at Dannemoragruvan has been designated as a site of national interest in terms of mineral resources. The whole area, including nearby Österbybruk, is also an area of national interest in terms of cultural conservation. There are no strictly protected areas close to Dannemoragruvan except for a water protection area (Kyrkholmen) ca. 1 km to the south of the mine.

When the mine was in operation excess water was discharged into the local watercourse, Sundbroån, to the west of the mine. This watercourse flows to the south and enters Lake Dannemorasjön further south. Sundbroån has been classified in accordance with the Water Framework Directive (WFD). The current ecological status is moderate and the EQS (Environmental Quality Standards) has been designated to be good by 2027. Future discharge from the mine will be required to meet discharge limits in accordance with the WFD.

As there is currently no valid Environmental Permit in place for the mining operation at Dannemora, a new permit will have to be applied for before dewatering of the mine can take place. In order to prepare a complete EIA report as part of any future permit application, studies and investigations need to be updated and/or revised. A number of these studies have already been initiated e.g., water and aquatic studies.

Based on the information reviewed, several environmental issues have been identified that are considered to be of importance to the recommencement of mining at Dannemora: (i) Impact on groundwater levels in the surrounding area and especially private wells; (ii) Potential release of metals to the Sundbroån watercourse; and (iii) Leakage of arsenic from waste material backfilled in the underground mine workings.

Operational Considerations

It is DKAB's intention to have an owner operated mine, with all key staff employed by DKAB and the key parts of the operations run by its own staff. There will be a need to work with contractors for special tasks such as blasting, servicing and maintenance of mining equipment, and underground development.

Based on experience from the 2012-2015 operation, the total number of directly employed staff and contractors has been estimated to be 117 and 110, respectively.

It is proposed that the mining operation will run 7 days a week, with 2 shifts per day, giving a total of 4 shift teams. It is envisaged that the process plant will run 24/7, with 5 shift teams.

The plan is to have a "flat" management structure within the organisation, with the DKAB Managing Director reporting to the CEO of Grängesberg Exploration Holding AB.

A Mine Manager will be responsible for the mining operation, with a Mill Manager being responsible for processing and loading of product to the rail cars, prior to transport to the port. The Management team will consist of: Managing Director, Mine Manger, Mill Manager, Marketing and Logistic Manager, HR Manager, Financial Manager, HSE Manager, Service and Maintenance Manager, and Exploration Manager. Including support staff for the management team, the total number will be between 12 and 14 people. The Managing Director will delegate tasks and responsibilities for the different parts of the operations to the relevant managers, in accordance with industry best practices and Health and Safety legislation.

Cost Estimation

The overall estimated **CAPEX** (including a 10% contingency with the exception for the process for which 15% contingency has been applied) for the development and re-commencement of mining at the Dannemora Mine is summarised in Table 3. The estimates include an allowance for securing an Environmental Permit and dewatering of the mine.

Table 3: Estimated CAPEX for the re-commencement of mining at Dannemora in US$

Estimated CAPEX for mine development	
Item	US$
Mining	27,841,265
Processing	72,820,691
Infrastructure & Logistics (Port)	4,705,882
Environmental Permit	611,765
Dewatering of the Mine	10,716,987
Total	**116,696,590**

The overall estimated **OPEX** per tonne of product for the operation of the Dannemora Mine for Years 1 to 4 based on 1.1 DMt/yr (dry metric tonnes) is summarised in Table 4.

Table 4: Estimated OPEX for the operation of the Dannemora Mine US$/t

Estimated OPEX	
Item	US$/t
Mining	32.54
Processing	10.21
Infrastructure & Logistics	7.88
G & A	1.50
Royalty	0.14
Total	**52.27**

The total OPEX cost estimate for G&A for the mine, processing plant, port and all supporting infrastructure and staff is estimated to be US$ 1,650,000 per annum (or US$ 1.50/t).

A 0.2% mineral royalty of the value of ROM is payable. This comprises 0.05% to the state and 0.15% to landowners (DKAB owns part of property surrounding the mine). The royalty costs are estimated to be US$ 150,000 per year.

The closure costs (CAPEX) have been estimated to be ca. US$ 1,897,206, including a 25% contingency. OPEX during the first year of closure is estimated to be US$ $128,829. Year 2 to 30 aftercare maintenance and monitoring is currently estimated to be US$ $71,035 per annum.

CONCLUSIONS

Based on the experience gained from the 2012-2015 period, and with the clear objective to focus on the necessity to improve the quality (grade) of the finished product, the Scoping Study has shown that, with the utilisation of known and proven processing techniques, it will be potentially possible to produce a high-grade Fe-concentrate with specifications that can meet the expectations and needs of customers in Europe as well as outside Europe. By improving the Fe-concentrate grade it will be possible to achieve substantially higher prices compared to the 2012-2015 period.

It is planned to utilise and upgrade the previous improvements made to the mine during the 2012-2015 period as part of the future proposed development. The existing mine plan developed during this period will form the basis of the new Life of Mine (LOM), with areas previously planned and/or development being utilised to reduce initial start-up CAPEX.

The metallurgical testwork completed for the Scoping Study has confirmed that the Fe-concentrate product produced at Dannemora, would be of a quality that meets the needs of the steel producers now focusing on and investing in “green steel”. This quality of Fe-concentrate is in limited supply, and it can be expected that this situation will intensify over the coming years.

Based on the results of the Scoping Study, and future market expectations, the conclusion is that the project should be taken to a Pre-Feasibility (PFS) stage. The metallurgical testwork completed during the Scoping Study clearly indicates that there is a good opportunity to increase the Fe-concentrate grade, which would further enhance the viability and sustainability of the project, with the sale of a premium product in high demand.

Much of the work carried out as part of this Scoping Study is based on information/data and knowledge gained by key individuals (now part of Scoping Study team) who previously worked at Dannemora during the 2012-2015 period. This level of knowledge and input to the Scoping Report is invariably of a high-level, and contains more detail and certainty than is normal for a Scoping Study.

The results of the Scoping provide a strong foundation to take this project - the re-commencement of mining at Dannemora - to the next stage.

Signature Page

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