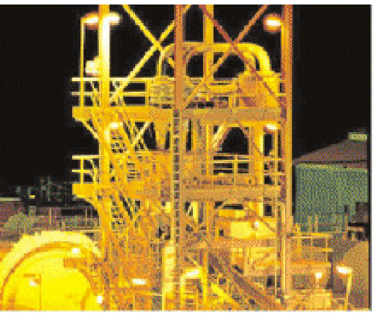

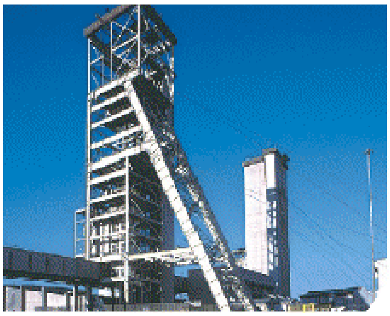

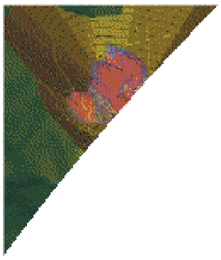

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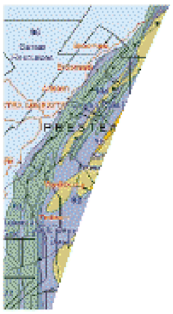
Integrated Mining Solutions

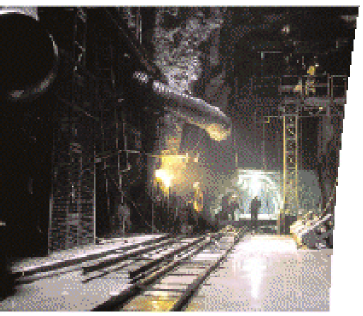
Independent Technical Report on the Norwegian Mineral Properties of Northern Iron Limited



Prepared by RSG Global Consulting Pty Ltd on behalf of:-

Northern Iron Limited

for inclusion in a Prospectus



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Independent Technical Report on the Norwegian Mineral Properties of Northern Iron Limited

Prepared by RSG Global Consulting Pty Ltd on behalf of:-

Northern Iron Limited

For inclusion in a Prospectus

Author: Dr J P de Visser Principal Consultant MSc.(Geol.), PhD. (Geol.), MAusIMM

Date: 24 October 2007

Job Number: PNOR20

Copies:

Northern Iron Limited	(2)
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Independent Technical Report

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24 October 2007

The Directors
Northern Iron Limited
Level 3
3 Ord Street
West Perth WA 6005

Dear Sirs,

RSG Global Consulting Pty Ltd ('RSG Global') has been commissioned by Northern Iron Limited ('NIL') to provide an Independent Technical Report on an iron ore development and exploration property comprising the Sydvaranger Iron Project, located in Norway, in which NIL is buying a 100% interest through the purchase of Sydvaranger Gruve AS ('SVG'). This report is to be included in a Prospectus for the proposed admission of NIL to the Australian Securities Exchange ('ASX') operated by the Australian Stock Exchange Limited. Funds raised, pursuant to a placing to occur immediately prior to the admission to the ASX, will be used primarily for the purpose of exploration, evaluation and development of the mineral property.

RSG Global has not been requested to provide an Independent Valuation, nor have we been asked to comment on the Fairness or Reasonableness of any vendor or promoter considerations. RSG Global has therefore not offered any opinion on these matters.

RSG Global has based its review of the Sydvaranger Iron Project on information provided by NIL, along with technical reports prepared by government agencies and previous tenement holders, and other relevant published and unpublished data. These reports are listed with other principal sources of information in the bibliography. A site visit was undertaken to the Sydvaranger Iron Project by the primary author, Dr Jan de Visser, and by one of the co-authors, Mr Rodney Smith, during June 2007. RSG Global has endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the Independent Technical Report is based. A final draft of the report was also provided to NIL, along with a written request to identify any material errors or omissions prior to lodgement. Where appropriate, and in accordance with ASIC Practice Note 55 and Update 183, consent has been obtained to quote data and opinions expressed in unpublished reports prepared by other professionals on the properties concerned.

The Sydvaranger Iron Project is understood to comprise 32 granted Preclaims, 49 granted Claims and 23 Preclaim applications, covering an aggregate area of 1631.69 hectares. The mineral assets and associated production facilities are held by SVG. The legal status of the assets has been the subject of separate legal confirmation obtained by NIL. These matters have not been independently verified by RSG Global. The present status of tenements and agreements listed in this report is based on information provided by NIL, and the report has been prepared on the assumption that the tenements are, or will prove to be, lawfully accessible for evaluation and development.

The Independent Technical Report has been prepared in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports ('The VALMIN Code'), which is binding upon Members of the Australasian Institute of Mining and Metallurgy ('AusIMM'), the Australian Institute of Geoscientists ('AIG'), and the rules and guidelines issued by such bodies as the Australian Securities and Investments Commission ('ASIC') and the ASX, which pertain to Independent Expert Reports.

The mineral properties in which NIL is buying a 100% interest in through the purchase of SVG are considered to be sufficiently prospective, subject to varying degrees of risk, to warrant further evaluation and development of their economic potential, consistent with the proposed programmes. Exploration and evaluation programmes summarised in the report amount to a total expenditure of approximately A$124.6 million, of which NIL plans to spend approximately A$70.5 million in the first year of assessment. At least half the liquid assets held, or funds proposed to be raised by NIL, are understood to be committed to the acquisition, exploration, development and administration of the mineral properties, satisfying the requirements of ASX Listing Rules 1.3.2(b) and 1.3.3(b). RSG Global also understands that NIL will have sufficient working capital to carry out its stated objectives, satisfying the requirements of ASX Listing Rule 1.3.3(a). NIL has prepared staged exploration and evaluation programs, specific to the potential of the projects, which are consistent with the budget allocations. RSG Global considers that the assets have sufficient technical merit to justify the proposed programs and associated expenditure, satisfying the requirements of ASX Listing Rule 1.3.3(a). The proposed exploration budget also exceeds the anticipated minimum annual statutory expenditure commitment on the various project tenements.

The Independent Technical Report has been prepared on the basis of information available up to and including 24 October 2007. RSG Global is not aware of any material change to the assets and liabilities of the client since this date. RSG Global has provided consent for the inclusion of the Executive Summary of the Independent Technical Report in the Prospectus in the form and context in which that Executive Summary appears and has not withdrawn that consent prior to lodgement of the Prospectus with the ASIC. The full Independent Technical Report is posted on the NIL website (www.northerniron.com.au).

RSG Global is an integrated mineral industry consulting firm, which has been providing services and advice to international mining companies and financial institutions since 1987. The primary author of this report, Dr Jan de Visser, is a professional geologist with 18 years experience in the exploration and evaluation of mineral properties within Australia and elsewhere internationally. Dr de Visser is a Principal Consultant with RSG Global, and a Member of the AusIMM. The co-author of this report is Mr Richard Yeates, who is a professional geologist with 25 years experience in the exploration and evaluation of mineral properties internationally. Mr Yeates is a Senior Principal of RSG Global and is a Member of both the AusIMM and the AIG. Each of the authors has the appropriate relevant qualifications, experience, competence and independence to be considered an 'Expert' under the definitions provided in the VALMIN Code. Dr de Visser is also appropriately qualified to act as a "Competent Person" as defined in the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004).

In addition, RSG Global consultants and associates Mr Harry Warries, Mr Rodney Smith and Dr David Gwyther were retained by the primary author as "Specialists" to respectively advise and report on mining-engineering, mineral processing and environmental assessments associated with the NIL assets. All contributing authors are appropriately qualified and experienced to act as "Specialists" as defined in the VALMIN Code.

Neither RSG Global, nor the Experts and Specialists responsible for compiling this report, have or have had previously any material interest in NIL or the mineral properties in which NIL is buying a 100% interest in through the purchase of SVG. RSG Global has carried out consulting work in the past for NIL, and may undertake consulting work for NIL in the future. RSG Global's relationship with NIL is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

Yours faithfully
RSG Global

Dr J P de Visser MSc PhD MAusIMM
Principal Consultant
Resource Geology Manager - Perth

Table of Contents

List of Tables

List of Figures

EXECUTIVE SUMMARY

RSG Global Consulting Pty Ltd ('RSG Global') has been commissioned by Northern Iron Limited ('NIL') to provide an Independent Technical Report ('ITR') on an iron ore development and exploration property comprising the Sydvaranger Iron Project, located in Norway, in which NIL is buying a 100% interest through the purchase of Sydvaranger Gruve AS ('SVG').

The report complies with the requirements of an Independent Technical Report for inclusion in a Prospectus for the purpose of seeking admission to the Australian Securities Exchange ('ASX') and has been prepared in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports ('The VALMIN Code').

NIL is a new entity that has been formed to acquire the mineral assets and existing processing infrastructure of Sydvaranger AS in Norway.

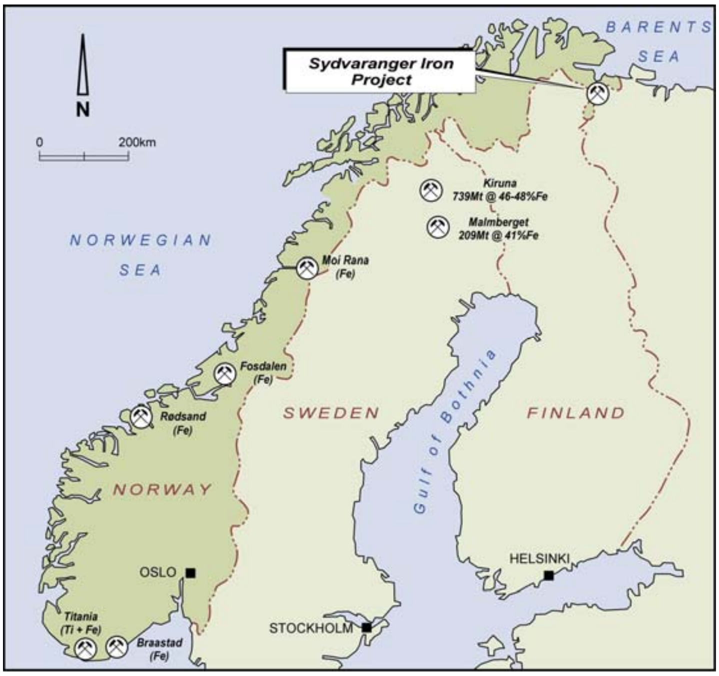
The Sydvaranger deposits have produced iron ore since 1910 and, apart from interruptions during both World Wars, continued until 1997. In excess of 200Mt of magnetite iron ore has been mined, making it one of the largest iron ore mines in Europe.

NIL intends to list on the ASX to raise sufficient equity for the restart of the mining and processing operations in May 2009 and for ongoing mine-based exploration to increase the mineral inventory.

NIL has an experienced Board of Directors and management team with broad experience exploring, financing and developing mineral opportunities and operating major businesses in Norway. NIL also intends to seek new opportunities in Scandinavia that will add to its portfolio and increase shareholder value.

The Sydvaranger Iron Project is located in Finnmark, northern Norway.

Project Location



The concentrator and port facilities are located in the town of Kirkenes, approximately 8km to the south of the Bjørnevatn mine and are linked by an existing rail line.

In excess of 23 separate magnetite deposits have been identified to date, ranging in size from several million tonnes to several hundreds of millions of tonnes of >30% $Fe_{(total)}$ mineralisation.

The table below provides a summary of the resources that have been reported for the Sydvaranger Iron Project. The Mineral Resource statement was compiled by Dr Jan de Visser of RSG Global.

Sydvaranger Iron Project

Mineral Resource Summary 31st August 2007
10mE x 25mN x 7mRL Panel Estimate
Reported at a 15% $Fe_{(mag)}$ cutoff

Deposit	Resource Category	Tonnes (Mt)	Fe Mag (%)	Fe Total (%)	Fe Mag (Mt)	Fe Total (Mt)
Bjørnevatn	Inferred	279	28	31	79	86
Kjellmannsåsen	Inferred	22	28	33	6	7
Fisketind Øst	Inferred	29	21	31	6	9
Total		**330**	**28**	**31**	**91**	**102**

In the absence of either Measured or Indicated Resources, no Ore Reserves can be declared in accordance with the JORC Code guidelines. NIL's Development Plan is presently based on in-pit Inferred Resources, referred to as the Mineral Inventory. NIL plans to incorporate the vast amount of mine data into the resource estimates in the near future with a view to upgrading the resources to Measured or Indicated Category which would be available for conversion to a Reserve.

Ordinarily, in converting Mineral Resources to Ore Reserves, mining, metallurgical, economic, marketing, legal, environmental and other factors would be considered. The aforementioned factors are commonly referred to as the 'modifying factors'.

The majority of the modifying factors used to develop the Mineral Inventory for the Sydvaranger Iron Project are primarily based on historic operational data and the earlier work carried out by other consultants. A summary of the principal modifying factors that have been considered for the Project are provided in the table below, with all monetary units denominated in US$.

Sydvaranger Iron Project

Modifying Factors used in Mineral Inventory Determination

Item	Units	Value
Concentrate price (FOB)	US$/t conc.	48
Average mining cost	US$/t	2.38
Concentrator cost	US$/t	6.21
Fisketind additional Processing cost	US$/t	0.25
Extra over haulage satellite pits	US$/t/km	0.125
G&A	US$M/yr	2.8
Processing recovery	% of Fe	95
Concentrate grade	%	67.5
Mining dilution added	%	Nil
Mining recovery	%	97
Inter ramp slope angle	Degrees	55
Capital expenditure	US$M	100.2

A summary of the Mineral Inventory that was determined for the Project as at August 2007 is shown in the following table. The mineral inventory tabulated for the Project was based on pit optimisation studies and a mining study that targeted a 20 year mine life.

Sydvaranger Iron Project Mineral Inventory as at August 2007		
Deposit	**Mineral Inventory**	
	Tonnes [Mt]	**Total Fe [%Fe]**
Bjørnevatn	110.8	32.5
Fisketind Øst	7.8	30.9
Kjellmannsåsen	13.7	33.2
Total	**132.3**	**32.5**

NIL proposes to mine approximately 30Mtpa of material at a waste to ore ratio of 2.1:1, from which 7Mtpa of ore would be processed to produce 2.9Mtpa of magnetite iron ore concentrate at ~67.5%Fe over a 19 year period.

The ore is to be processed using conventional crushing, grinding, magnetic separation, thickening and filtration, prior to storage and shipment at the adjacent port facility. The continuance of submarine tailings disposal is proposed. Much of the pre-existing plant infrastructure is still in place, with the exception of secondary crushers and grinding mills.

Norway has five main permitting authorities that are required to assess and approve various aspects of the project. Three of these authorities have already provided approval to recommence operations, whilst the remaining two approvals are expected to be completed within the nominal six and nine month time frames allocated by the authorities.

The capital cost estimate to recommission the project is US$100.2 million of which US$72.2 has been allocated to the process plant. Operating costs are estimated to be $13.84 per tonne of ore treated which equates to US$32.56/dmt of concentrate.

A concentrate value of US$48/dmt FOB was used as a basis for the financial evaluation of the project by NIL, however the current estimate of concentrate value is US$65/dmt FOB.

1 INTRODUCTION

1.1 Terms of Reference

RSG Global Consulting Pty Ltd (‘RSG Global’) has been commissioned by Northern Iron Limited (‘NIL’) to provide an Independent Technical Report (‘ITR’) on an iron ore development and exploration property comprising the Sydvaranger Iron Project, located in Norway, in which NIL is buying a 100% interest through the purchase of Sydvaranger Gruve AS (‘SVG’). Iron ore production from the Sydvaranger deposits commenced in 1910 and, apart from interruptions during both World Wars, continued until 1997. NIL intends to list on the ASX to raise sufficient equity for the restart of the mining and processing operations and for mine-based exploration to increase the mineral inventory.

This report complies with the requirements of an Independent Technical Report for inclusion in a Prospectus for the purpose of seeking admission to the Australian Securities Exchange (‘ASX’) and has been prepared in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (‘The VALMIN Code’).

Unless otherwise stated, all references to currency in this report refer to US$. References to the currency of Norway refer to Norwegian Kroner (‘NOK’).

1.2 Qualifications, Experience and Independence

The primary author of this report is Dr. Jan de Visser who is a qualified geologist with 18 years of experience in the exploration and evaluation of mineral properties within Australia and elsewhere internationally. Dr. de Visser is a Principal Consultant of RSG Global and a Member of the Australasian Institute of Mining and Metallurgy (‘AusIMM’). The co-author of this report is Mr Richard Yeates, who is a professional geologist with 25 years experience in the exploration and evaluation of mineral properties internationally. Mr Yeates is a Senior Principal of RSG Global and is a Member of both the AusIMM and the AIG. Each of the authors has the appropriate relevant qualifications, experience, competence and independence to be considered an ‘Expert’ under the definitions provided in the VALMIN Code. Dr de Visser is also appropriately qualified to act as a “Competent Person” as defined in the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004).

In addition, RSG Global consultants and associates Mr Harry Warries, Mr Rodney Smith and Dr David Gwyther were retained by the primary author as “Specialists” to respectively advise and report on mining engineering, mineral processing and environmental aspects associated with the NIL assets. All contributing authors are appropriately qualified and experienced to act as “Specialists” as defined in the VALMIN Code.

Mr Harry Warries is a professional mining engineer with 16 years experience in the evaluation of mineral properties internationally, Mr Rodney Smith is a professional metallurgist with 25 years experience in mineral processing predominantly in Australia, and Dr David Gwyther is a professional biologist with 24 years international experience in environmental impact assessment. Messrs Warries and Smith are Principal Consultants with RSG Global and Mr Gwyther is a Principal Consultant with Enesar Consulting Pty Ltd. Messrs Warries and Smith are Members of the AusIMM.

Neither RSG Global, nor the Experts and Specialists responsible for compiling this report, have or have had previously any material interest in NIL or the mineral properties in which NIL has, or is earning, an interest. Our relationship with NIL is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

1.3 Principal Sources of Information

The principal sources of information used to compile this report comprise technical reports and technical data variously compiled and supplied by NIL and its consultants, and discussions with site and corporate management. A listing of the principal sources of information is included in Section 13 of this report. In addition, a site visit was undertaken to the Sydvaranger Iron Project by the primary author, Dr Jan de Visser, and by one of the co-authors, Mr Rodney Smith, between 18 and 21 June 2007.

1.4 Declaration

RSG Global declares that it has taken all reasonable care to ensure that the information contained in this report is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import.

2 COMPANY INFORMATION AND TENURE

Northern Iron Limited ('NIL') is a new entity that has been formed to acquire the mineral assets of Sydvaranger AS in Norway. Sydvaranger AS has been demerged into two companies, Sydvaranger AS ('Sydvaranger') and Sydvaranger Gruve AS ('SVG'), with the latter company holding all the mineral assets and associated production facilities of the Sydvaranger Iron Project. SVG will, subject to the IPO of NIL, be acquired by NIL.

The current owner of the Sydvaranger Iron Project is SVG, which in turn is owned by the Tschudi Shipping Company AS ('Tschudi'). NIL entered into an agreement with Tschudi in April 2007 to list the mining assets on the ASX. Tschudi have retained ownership of the port, concentrate/pellet silos and certain areas of land beneath the concentrator and railway line. SVG and Tschudi have entered into lease and operating agreements to ensure NIL has priority access to the concentrate handling and storage facilities, and sole use of the leased land.

On 23 April 2007, Mr Mick McMullen and Mr Ashwath Mehra entered into an agreement with Tschudi to form NIL, which would acquire SVG. NIL was established in May 2007 in Perth, Western Australia, by Messrs McMullen and Mehra. Mr McMullen is a geologist and mining project developer with extensive experience in mineral exploration and mine development, and who recognised the potential for iron ore production in Europe. Mr Mehra has a degree in Economics and is the CEO of MRI Resources AG, a major raw materials trading business. NIL will acquire a 100% interest in SVG immediately prior to the listing of NIL on the ASX.

NIL's development plan (the 'Development Plan') is predicated on refitting the existing infrastructure with the necessary plant and equipment to process approximately 7Mt of ore a year to produce in the order of 3Mt of iron concentrate a year.

Systematic evaluation of the Sydvaranger Iron Project, where mining of magnetite iron ore has taken place until 1996 and processing until 1997, has confirmed that the Project contains large, economic iron ore resources and has good potential to resume and expand production due to its proximity to markets, the high iron ore price and the potential for additional iron mineralisation. There is potential to construct a pellet plant to produce a value-added product in the medium to long term.

NIL has an experienced Board of Directors and management team with broad experience exploring, financing and developing mineral opportunities and operating major businesses in Norway. NIL also intends to seek new opportunities in Scandinavia that will add to its portfolio and increase shareholder value.

The Sydvaranger Iron Project is understood to comprise 49 granted Claims, 32 granted Preclaims and 23 Preclaim applications covering an aggregate area of 1631.69 hectares as shown in Tables 2_1 and 2_2 and Figure 2_1.

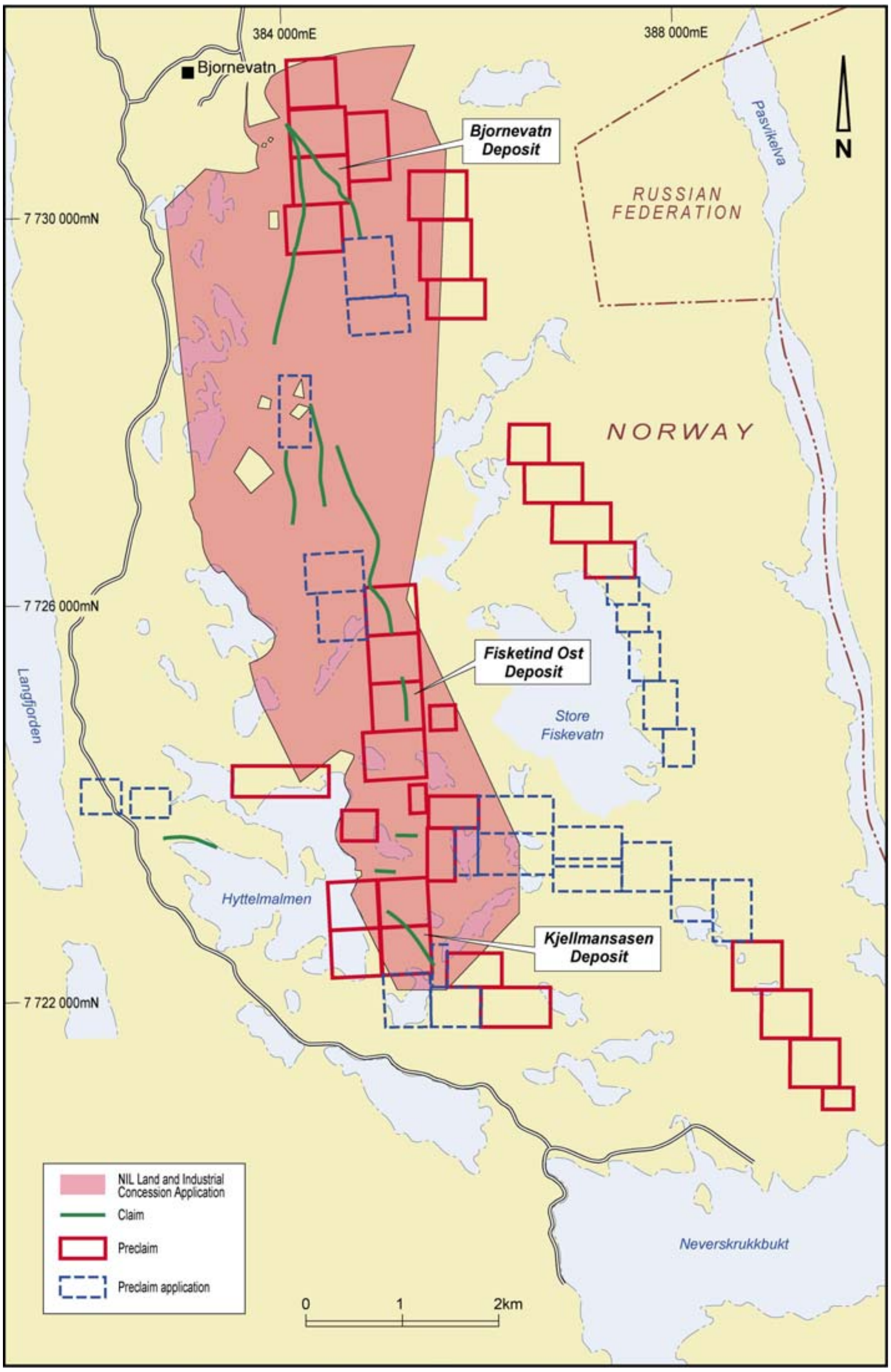
Table 2_1 Sydvaranger Iron Project Tenement Schedule						
Tenement Name	**Tenement Number**	**Tenement Type**	**Area (m^2)**	**Rent (NOK/annum)**	**Grant Date**	**Registered Holder**
Bjørnevatn V	LU-19-1903	Claim	140,000	700	06.12.1902	Sydvaranger Gruve AS
Bjørnevatn V	LU-21-1903	Claim	140,000	700	06.12.1902	"
Bjørnevatn V	LU-22-1903	Claim	140,000	700	06.12.1902	"
Bjørnevatn V	LU-23-1903	Claim	140,000	700	06.12.1902	"
Bjørnevatn V	LU-24-1903	Claim	140,000	700	06.12.1902	"
Bjørnevatn V	LU-25-1903	Claim	112,000	600	06.12.1902	"
Bjørnevatn V	LU-26-1903	Claim	84,000	450	06.12.1902	"
Bjørnevatn V	LU-27-1903	Claim	84,000	450	06.12.1902	"
Bjørnevatn V	LU-28-1903	Claim	84,000	450	06.12.1902	"
Bjørnevatn V	LU-29-1903	Claim	56,000	300	06.12.1902	"
Bjørnevatn Ø	LU-32-1903	Claim	56,000	300	06.12.1902	"
Bjørnevatn Ø	LU-2-1903	Claim	112,000	600	06.12.1902	"
Bjørnevatn Ø	LU-54-1903	Claim	84,000	450	06.12.1902	"
Bjørnevatn Ø	LU-55-1903	Claim	84,000	450	06.12.1902	"
Bjørnevatn Ø	LU-56-1903	Claim	84,000	450	06.12.1902	"
Tverrdalen	LU-39-1903	Claim	112,000	600	06.12.1902	"
Tverrdalen	LU-40-1903	Claim	112,000	600	06.12.1902	"
Tverrdalen	LU-41-1903	Claim	112,000	600	06.12.1902	"
Tverrdalen	LU-42-1903	Claim	112,000	600	06.12.1902	"
Tverrdalen	LU-182-1903	Claim	112,000	600	06.12.1902	"
Tverrdalen	LU-183-1903	Claim	168,000	850	06.12.1902	"
Tverrdalen	LU-184-1903	Claim	168,000	850	06.12.1902	"
Fisketind	LU-185-1903	Claim	112,000	600	06.12.1902	"
Fisketind	LU-186-1903	Claim	112,000	600	06.12.1902	"
Fisketind	LU-187-1903	Claim	112,000	600	06.12.1902	"
Fisketind	LU-188-1903	Claim	112,000	600	06.12.1902	"
Fisketind	LU-189-1903	Claim	112,000	600	06.12.1902	"
Grunntjern	LU-44-1903	Claim	84,000	450	06.12.1902	"
Grunntjern	LU-45-1903	Claim	84,000	450	06.12.1902	"
Grunntjern	LU-46-1903	Claim	84,000	450	06.12.1902	"
Grunntjern	LU-47-1903	Claim	84,000	450	06.12.1902	"
Grunntjern	LU-48-1903	Claim	84,000	450	06.12.1902	"
Grunntjern	LU-49-1903	Claim	84,000	450	06.12.1902	"
Søstervann	LU-50-1903	Claim	112,000	600	06.12.1902	"
Søstervann	LU-51-1903	Claim	112,000	600	06.12.1902	"
Søstervann	LU-52-1903	Claim	112,000	600	06.12.1902	"
Søstervann	LU-53-1903	Claim	112,000	600	06.12.1902	"
Ørnevann	LU-163-1903	Claim	84,000	450	06.12.1902	"
Ørnevann	LU-164-1903	Claim	84,000	450	06.12.1902	"
Ørnevann	LU-165-1903	Claim	84,000	450	06.12.1902	"
Ørnevann	LU-166-1903	Claim	84,000	450	06.12.1902	"
Jernhatten	LU-141-1903	Claim	140,000	700	06.12.1902	"
Jernhatten	LU-142-1903	Claim	140,000	700	06.12.1902	"
Hyttemalmen	LU-81-1903	Claim	56,000	300	06.12.1902	"
Hyttemalmen	LU-122-1903	Claim	56,000	300	06.12.1902	"
Kjellmannsåsen	LU-101-1903	Claim	N/A	1485	06.12.1902	"
Kjellmannsåsen	LU-102-1903	Claim	N/A	1485	06.12.1902	"
Kjellmannsåsen	LU-103-1903	Claim	N/A	1485	06.12.1902	"
Kjellmannsåsen	LU-104-1903	Claim	N/A	1485	06.12.1902	"
Andehatten	0679/2001-FB	Preclaim	62,500	210	22.08.2001	"
Reitanmalmen 1	0680/2001-FB	Preclaim	150,000	450	22.08.2001	"
Reitanmalmen 2	0681/2001-FB	Preclaim	137,500	420	22.08.2001	"
FisketindSyd/Jerntoppen Nord	0682/2001-FB	Preclaim	45,000	150	22.08.2001	"
Ørnåsen	0683/2001-FB	Preclaim	105,000	330	22.08.2001	"
Teltbuktmalmen	0684/2001-FB	Preclaim	300,000	900	22.08.2001	"

Tenement Name	Tenement Number	Tenement Type	Area (m^2)	Rent (NOK/annum)	Grant Date	Registered Holder
Mattilamalmen 1	0685/2001-FB	Preclaim	192,500	600	22.08.2001	"
Mattilamalmen 2	0686/2001-FB	Preclaim	280,000	840	22.08.2001	"
Boris Gleb 1	0687/2001-FB	Preclaim	300,000	900	22.08.2001	Sydvaranger Gruve AS
Boris Gleb 2	0688/2001-FB	Preclaim	300,000	900	22.08.2001	"
Boris Gleb 3	0689/2001-FB	Preclaim	240,000	720	22.08.2001	"
Vakkeråsen 1	0690/2001-FB	Preclaim	160,000	480	22.08.2001	"
Vakkeråsen 2	0691/2001-FB	Preclaim	240,000	720	22.08.2001	"
Vakkeråsen 3	0692/2001-FB	Preclaim	240,000	720	22.08.2001	"
Vakkeråsen 4	0693/2001-FB	Preclaim	175,000	540	22.08.2001	"
Varrevann 1	0694/2001-FB	Preclaim	250,000	750	22.08.2001	"
Varrevann 2	0695/2001-FB	Preclaim	250,000	750	22.08.2001	"
Varrevann 3	0696/2001-FB	Preclaim	250,000	750	22.08.2001	"
Varrevann 4	0697/2001-FB	Preclaim	60,000	180	22.08.2001	"
Bjørnevatn 1	1664/2006-FB	Preclaim	300,000	900	19.01.2007	"
Bjørnevatn 2	1665/2006-FB	Preclaim	300,000	900	19.01.2007	"
Bjørnevatn 3	1666/2006-FB	Preclaim	300,000	900	19.01.2007	"
Bjørnevatn 4	1667/2006-FB	Preclaim	250,000	750	19.01.2007	"
Bjørnevatn 5	1668/2006-FB	Preclaim	250,000	750	19.01.2007	"
Bjørnevatn 6	1669/2006-FB	Preclaim	250,000	750	19.01.2007	"
Fisketd Syd 2	1662/2006-FB	Preclaim	300,000	900	19.01.2007	"
Kjellmannsåsen 1	1658/2006-FB	Preclaim	250,000	750	19.01.2007	"
Kjellmannsåsen 2	1658/2006-FB	Preclaim	250,000	750	19.01.2007	"
Kjellmannsåsen 3	1658/2006-FB	Preclaim	250,000	750	19.01.2007	"
Kjellmannsåsen 4	1658/2006-FB	Preclaim	250,000	750	19.01.2007	"
Bjørnevatn 101	1672/2006-FB	Preclaim	250,000	750	19.01.2007	"
Bjørnevatn 102	1673/2006-FB	Preclaim	280,000	840	19.01.2007	"

Table 2_2
Sydvaranger Iron Project
Preclaim Applications

Preclaim Name	Area (m^2)	Date of Application	Applicant
Brattli 1	140,000	6.09.2007	Sydvaranger Gruve AS
Brattli 2	120,000	6.09.2007	"
Kjellmannsåsen 5	78,750	6.09.2007	"
Kjellmannsåsen 6	275,000	6.09.2007	"
Kjellmannsåsen 7	200,000	6.09.2007	"
Bjørnevann 7	297,600	7.10.2007	"
Bjørnevann 8	240,000	7.10.2007	"
Bjørnevann 9	225,000	7.10.2007	"
Bjørnefjell 1	240,000	7.10.2007	"
Bjørnefjell 2	175,000	7.10.2007	"
Vakkeråsen 5	90,000	7.10.2007	"
Vakkeråsen 6	90,000	7.10.2007	"
Vakkeråsen 7	150,000	7.10.2007	"
Vakkeråsen 8	150,000	7.10.2007	"
Vakkeråsen 9	120,000	7.10.2007	"
Reitan 3	145,000	7.10.2007	"
Reitan 4	266,000	7.10.2007	"
Reitan 5	266,000	7.10.2007	"
Reitan 6	280,000	7.10.2007	"
Reitan 7	175,000	7.10.2007	"
Reitan 8	250,000	7.10.2007	"
Varrevann 5	170,000	7.10.2007	"
Varrevann 6	280,000	7.10.2007	"

Figure 2_1
Tenement Plan



Claims are shown as lines between claim points, which are defined points on the map where the claim is registered with a number and coordinates. The Kjellmannsåsen Claims are of a special type where the area is not defined.

The mineral assets and associated production facilities are held by SVG. The legal status of the assets is the subject of separate legal confirmation obtained by NIL. These matters have not been independently verified by RSG Global. The present status of tenements and agreements listed in this report is based on information provided by NIL, and the report has been prepared on the assumption that the tenements are, or will prove to be, lawfully accessible for evaluation and development.

The following breakdown of expenditures has been provided by NIL showing the use of the net proceeds to be raised by the IPO of NIL (Table 2_3).

Table 2_3
Sydvaranger Iron Project
Proposed Exploration and Development Expenditures
(A$)

Item	Year One	Year Two	Total
Capital Development	62.0	39.9	101.9
Exploration	2.4	2.4	4.7
Expansion Scenario Feasibility Study	0.6	0.2	0.8
Pelletising Plant Feasibility Study	0.6	0.6	1.3
Mine Pre Strip	5.0	11.1	16.0
Total	**70.5**	**54.1**	**124.6**

RSG Global considers that the proposed exploration and development strategy is consistent with the potential of NIL's Project.

The proposed annual expenditure of A$70.5 million and A$54.1 million in Year 1 and Year 2 respectively is considered to be consistent with the potential of the Project and is adequate to cover the costs of the proposed programmes. The budgeted expenditure is also considered adequate to meet the combined minimum statutory expenditure commitments for the project tenements.

3 BACKGROUND INFORMATION ON NORWAY

3.1 Demographics and Geographic Setting

The country of Norway is located in northern Europe and has a land area of approximately 307,442km^2. It borders three countries, namely Finland (727km), Sweden (1,619km) and Russia (196km). The landscape is rugged and mountainous with few areas of lowlands. The capital city is Oslo, in the southwest, and other major cities are Bergen, Trondheim, Stavanger and Tromso. Norway has a temperate climate along the coast which is modified by the North Atlantic Current. The interior is colder with increased precipitation and colder summers. It is rainy year-round on the west coast.

The population of Norway was estimated at 4.68 million in January 2007, with a population growth rate of 0.36% per annum (2007 estimate). The official languages are Bokmal and Nynorsk Norwegian. There are small Sami and Finnish speaking minorities and the Sami language is official in six municipalities. An estimated 90% of the population is Christian, with the remainder being Muslim (1.8%) or of other religious affiliations (8.1%).

3.2 Political and Economical Status

Norway is governed by a constitutional monarchy and attained independence from Sweden in 1905. The current King ascended to the throne in 1991.

Norway’s legal system is a mixture of customary law, a civil law system, and common law traditions.

The Norwegian economy is a prosperous bastion of welfare capitalism, featuring a combination of free market activity and government intervention. The government controls key areas, such as the vital petroleum sector, through large-scale state enterprises. The country is richly endowed with natural resources - petroleum, hydropower, fish, forests and minerals - and is highly dependent on its oil production and international oil prices, with oil and gas accounting for one-third of export revenue.

Norway opted to stay out of the EU during a referendum in November 1994; nonetheless, as a member of the European Economic Area, it contributes sizably to the EU budget. The government has moved ahead with privatisation. Although Norwegian oil production peaked in 2000, natural gas production is still rising. Norway has been saving its oil-and-gas-boosted budget surpluses in a Government Petroleum Fund, which is invested abroad and is now valued at more than $250 billion. After growth of less than 1% in 2002-03, GDP growth picked up to 3-4% in 2004-06. Norway's economy remains buoyant. Domestic economic activity is, and will continue to be, the main driver of growth, supported by high consumer confidence and strong investment spending in the offshore oil and gas sector.

3.3 Mineral Industry

Petroleum and natural gas are Norway’s principal mineral resources and are extracted from the North Sea continental shelf. Norway is the world’s third largest exporter of petroleum, behind Saudi Arabia and Russia, and one of the world’s top exporters of natural gas.

Other mineral resources include iron ore (mainly at Sydvaranger), coal (Svalbard archipelago), lead, zinc and copper. Europe's only molybdenite mine and its largest deposit of ilmenite are also located in Norway. Deposits of chalk, dolomite, quartzite, graphite and limestone are commercially mined.

Until the 1970s, when offshore drilling for petroleum and natural gas began, mining was relatively unimportant in Norway. This sector now accounts for about one-eighth of Norway's GDP.

3.4 Mining Tenure

Under the Norwegian Mining Act of 30 June 1972, mining rights consist of Preclaims and Claims.

A legal entity may apply to the relevant authority (Bergvesenet) for a Preclaim in order to investigate the potential for minerals that may be economically extracted. The maximum size of a Preclaim is 300,000m^2. A Preclaim is granted for a period of 7 years, within which time the holder of the Preclaim has the right to file an application for a Claim. If an application to convert the Preclaim to a Claim is not filed within that time, the Preclaim is deemed to have lapsed and the area declared free for new Preclaims or Claims to be granted.

In order to convert a Preclaim to a Claim, the tenement holder must present documentation to prove that the results of the exploration are sufficient to support a production scenario. This is typically a feasibility or development study to indicate that an economic return would justify development, also highlighting the ability of the tenement holder to carry out those plans.

The Norwegian Mining Act also allows for Preclaim applications to be lodged over the top of valid and existing Preclaims and these are called Overclaims. This has no impact on the valid Preclaim during the 7 year life, but gives the Overclaim holder the first priority for the tenement if, after the 7 year period, the Preclaim holder has not converted to a Claim.

A Claim can be defined as an exclusive right to extract all claimable minerals from the ground within the claim area, i.e. conduct mining. Holding a Claim is also a prerequisite for obtaining a mining concession. As for a Preclaim, the maximum size of a claim is 300,000m^2.

Once granted a Claim has no time limit and is valid as long as the Claim holder pays the annual fee. However, if the Claim holder fails to pay the annual fee, the Claim is deemed to have lapsed and the area declared free for new Preclaims to be granted.

Under the Norwegian Mining Act no Claim may be lodged over the top of a valid and existing Claim. Thus, as long as one is the first to register a Claim, and pays the yearly fee to the Directorate of Mining, one has exclusive rights to all claimable minerals within the Claim's area.

4 PROJECT SETTING

The Sydvaranger Iron Project is located at latitude 70°N, longitude 30°E in the municipality of Sør-Varanger in Finnmark, northern Norway.

The concentrator and port facilities are located in the town of Kirkenes, and the mines are located approximately 8km to the south near the town of Bjørnevatn as shown in Figure 4_1. The project is accessed via bitumen roads and is well serviced by grid power and mobile phone coverage.

Figure 4_1
Project Location

The mining project covers an area of approximately 35km^2 and is bounded by two major bodies of water, namely Langfjorden to the west and the Pasvik River to the east. The Pasvik River forms the border between Norway and Russia and runs into a saline fjord, Bokfjorden.

The area is generally rugged with a multitude of small lakes. The natural ground varies in elevation between 80m and 200m above sea level, however the topography is dominated by mine workings with pit depths to 100m below sea level and extensive waste rock dumps forming some of the highest ridges. The natural ground surface comprises exposed bedrock with a thin and discontinuous cover of till. There are some localised deposits of bog and peat. Vegetation is limited to heather and low shrubs.

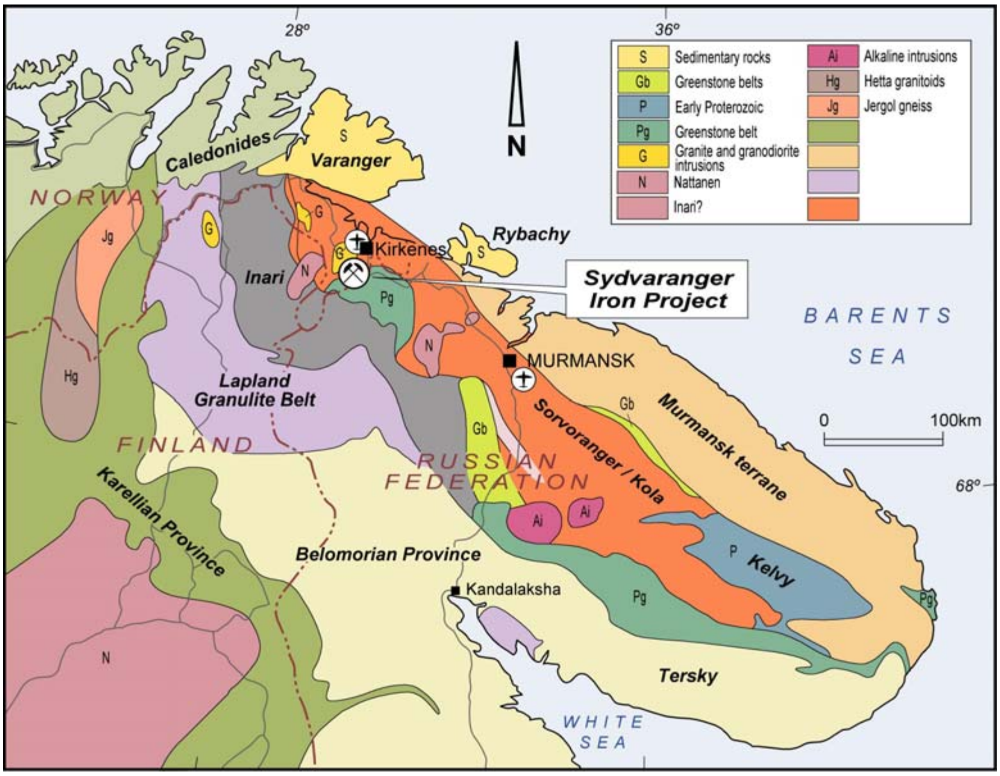
The region has an average temperature of approximately 0°C that is slightly higher in Kirkenes and slightly lower at Bjørnevatn. Permafrost conditions are known to exist in the area. Annual precipitation is 430mm (Kirkenes airport) consisting of rain (maximum in July and August) and snowfalls. The evapo-transpiration is estimated as approximately 110mm annually. Prevailing winds are from the southwest.

5 GEOLOGY

5.1 Regional Setting

The bedrock geology of eastern Finmark and the western Kola Peninsula is composed of Archaean to Early Proterozoic gneisses and volcano-sedimentary supracrustal rocks overlain by Late Proterozoic to Palaeozoic sedimentary rocks (Figure 5.1_1).

Figure 5.1_1
Regional Geology



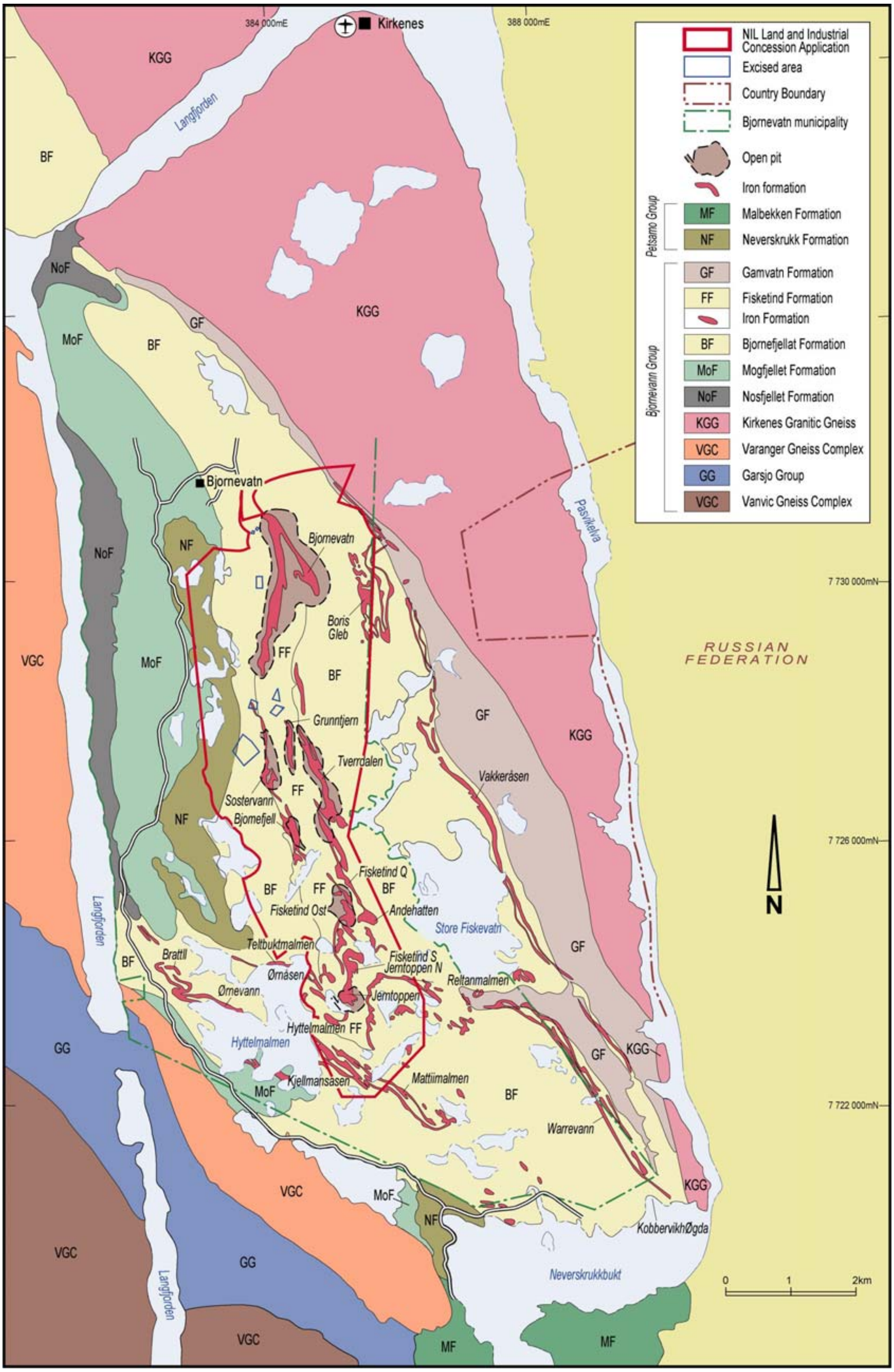
The Kola and Karelian cratons display a long evolutionary history from 2.8Ga (Pre-Samides) to 1.8Ga (Carelides). It starts with rocks formed in an intracratonic rift environment at 2.5-2.4Ga, including the iron ore formations at Sydvaranger, and culminates in the collision of the Kola craton with the Karelian craton around 1.9Ga, followed by orogenic collapse and crustal thinning (Lehtinen et al., 2005).

5.2 Local Setting

The local geological setting of the Sydvaranger Iron Project is summarised below.

All of the iron deposits that comprise the Sydvaranger Iron Project are situated in the metamorphosed sedimentary iron formations of the Fisketind Formation as shown in Figure 5.2_1.

Figure 5.2_1
Local Geology



The iron formations, and all of the associated rocks, are of Precambrian age. These formations are structurally deformed and are moderately to strongly metamorphosed. The rock formations range from older Archaean basement rocks (the granitoid gneisses and schists of the Kirkenes, Varanger, Garsjo and Svanvik complexes), which are exposed in the north-eastern and south-western parts of area, to the less metamorphosed (amphibolite facies) younger Archaean volcano-sedimentary rocks of the Bjørnevann Group, located in the central part of the area.

The stratigraphic rock units relevant to the iron ore deposits are the Fisketind and Bjørnefjellet Formations of the Bjørnevann Group. The Fisketind Formation contains all of the economically important iron formations, whereas most of the waste that has to be mined comprises the Bjørnefjellet Formation.

Regionally, the principal component of the Bjørnefjellet Formation is quartzite, but at the contact with the iron formations the main rock types are quartz-feldspar-amphibole gneisses. The thinly layered (banded) quartz-magnetite iron formations are situated at the base of the Fisketind Formation, largely interbedded with gneissic amphibolites that cap the iron deposits in the upper part of the formation. The Bjørnefjellet Formation, which represents the stratigraphic footwall to the Fisketind iron formation, consists mainly of quartzite and quartz-rich feldspar-mica gneisses and schists.

The various rock formations have a regional northwest strike throughout most of the area and a steep north-easterly dip. The most important structural feature is a major syncline located in the central part of the area, which contains nearly all of the economically important iron deposits of the Fisketind Formation. The principal faults in this formation are thrust faults that separate some of the major litho-stratigraphic units, but which do not affect the iron formations.

The thinly banded to laminated quartz-magnetite iron formations of the Kirkenes area are typical Algoma-type iron formations, but are more uniform in texture and composition than most of the comparable Lake Superior-type iron formations.

The principal and best known parts of the Fisketind iron formations are the Bjørnevatn West and East deposits located in the northern portion of the syncline within the central part of the Kirkenes area as shown in Figure 5.2_1. These deposits contain approximately 85% of the remaining iron ore resources in the Kirkenes area.

Iron formations have been defined over a 12km strike length from Bjørnevatn in the north to Kjellmannsåsen in the south as shown in Figure 5.2_1. The syncline that hosts the mineralisation has three distinct stratigraphic units, each separated by essentially barren amphibole-bearing rocks. The two largest units (Upper and Lower) are located at the base of the Fisketind Formation which, along with their stratigraphic equivalents in the southern part of the area, contain all of the mined and potentially mineable deposits. The third unit, which is situated above the Upper, contains thin, low grade and discontinuous iron concentrations.

The Upper Unit is the thickest, the least complicated and contains the highest magnetite content. Both the grade and coarseness of the magnetite are reported to be highest in the northern part of the unit, although the southern Kjellmannsåsen deposit does contain zones of high grade. The original thickness of the iron formation is unknown due to its modification by folding. The Upper Unit attains its greatest thickness in the nose of the syncline, where it merges with the Lower Unit to attain a combined horizontal mineralised width of 100m to 120m. To the south, the Upper Unit has a width of 40m to 70m.

The Lower Unit is confined solely to the southern extension of the western limb of the fold. It is thinner, more variable in thickness and composition, is generally harder and contains more interbeds of waste than the Upper Unit.

All of the waste contacts of the iron formations (the footwall gneisses below the iron formation), including the hornblende gneiss which interfingers with and caps the Lower and Upper Units, and isolated dykes that cut the iron formations, have sharp contacts and are readily distinguished by the abrupt change in magnetite content and the distinct banding of the iron formation.

The structure of the mineralised zone is dominated by the large syncline in the central part of the Project area. The syncline was formed during the main stage of regional deformation by east-west compression and is further complicated by subsequent weaker north-south compressions, which are believed to be largely responsible for the smaller folds that are superimposed on the major structure and which, in the central and southern portions of the mineralised zone, locally reverse the prevalent southerly plunge. The combined folding events very likely account for most of the variations in thickness of the iron formations. The mineralised zones often display isoclinal folding, with amplitudes from less than 1m to several tens of metres.

In excess of 23 separate iron deposits have been identified to date (Figure 5.2_2).

All are located within the regional upper and lower quartz-magnetite iron formations. Unique characteristics of each deposit are presented in Table 5.2_1.

Figure 5.2_2
Deposits and Existing Pit Outlines

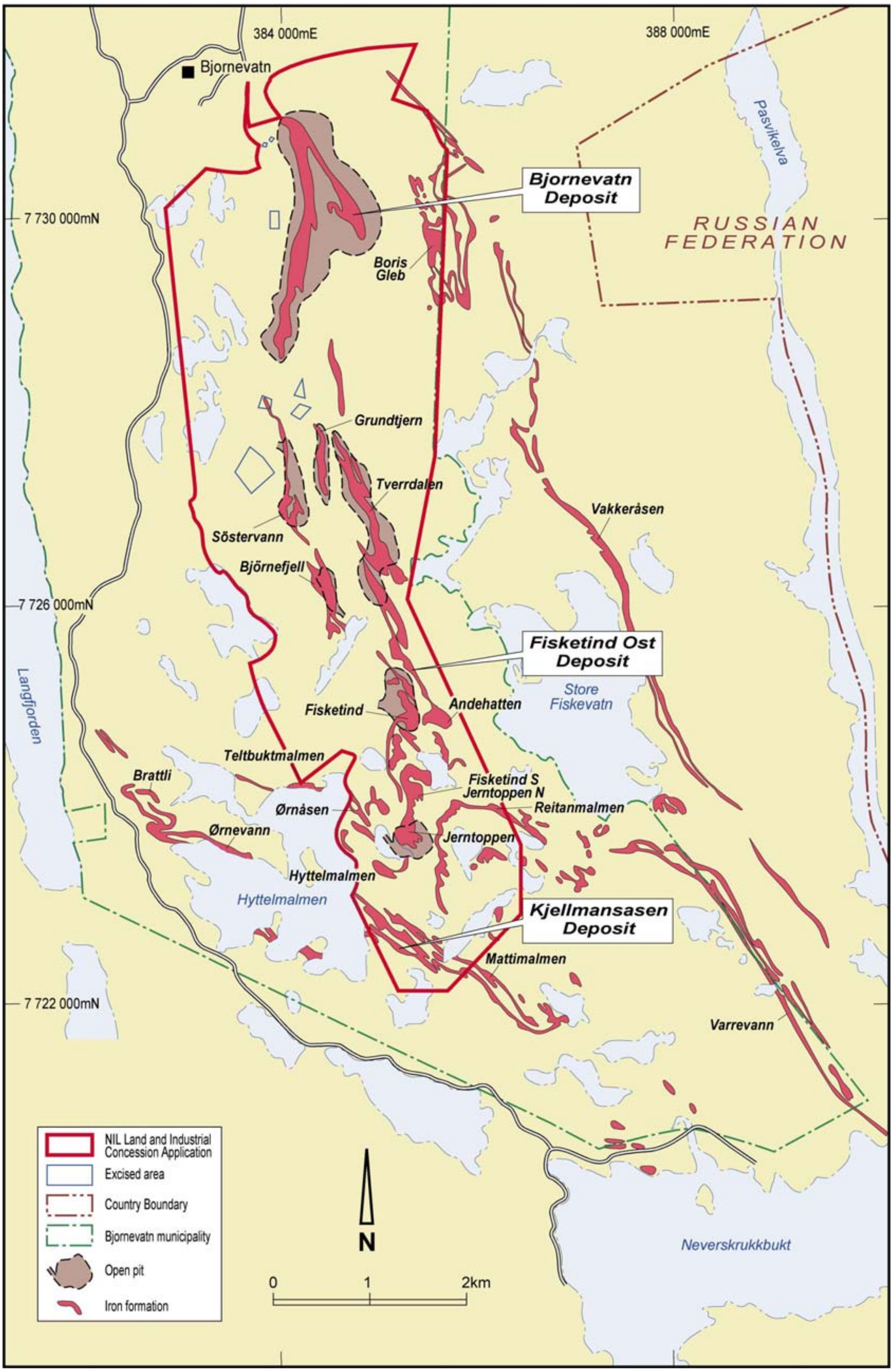


Table 5.2_1

Sydvaranger Iron Project

Deposit Geology

Deposit	**Characteristics**
Bjørnevatn	The Bjørnevatn deposit is hosted within the Upper Unit, strikes approximately 0° and is comprised of two limbs of a postulated syncline. The Western Limb dips steeply (-070°) towards the east and the East Limb dips steeply (-060°) to the west. The syncline plunges to the south. The West Limb consists of two mineralised zones over a width of 100m, whilst the East Limb comprises one mineralised zone of up to 200m width. The deposit was exposed on the surface but has now been mined to approximately 180m below surface. It has been intruded by sub-vertical diabase dykes striking predominantly at around 145°.
Kjellmannsåsen	The Kjellmannsåsen deposit is situated within a complex geological structure north of Mattilamalmen. The deposit hosts iron mineralisation from both Upper and Lower Units, with the majority of the mineralisation being from the Upper Unit. The deposit displays complex folding and is intersected by several diabase dykes. Some of the highest grade iron mineralisation is found here, with grades above 50% Fe.
Tverrdalen South West	The Tverrdalen deposit is hosted within the Lower Unit. The deposit is strongly deformed with isoclinal folding dipping towards the south. The deposit is also intersected by several diabase dykes.
Fisketind Øst	The Fisketind Øst deposit is hosted within the Lower Unit, strikes approximately 160° and dips steeply to the east in the northern portion, steepens to vertical in the central portion, and dips moderately to the west in the southern portion. The deposit is comprised of a major, wide (50m to 80m) mineralised zone and 2 narrower (20m to 30m) zones. The deposit is exposed on the surface, for a prominent hill, and has been intruded by sub-vertical dykes striking 135°. The Fisketind Øst mineralisation appears to be directly along strike and possibly related to the mineralisation previously mined from the Tverrdalen pit.
Oskarmalmen	Oskarmalmen is the extension at depth of the Fisketind deposit and is hosted in the Upper Unit. Drilling indicates several isoclinal folds at depth. The area is also intercepted by several dykes. Oskarmalmen appears to be connected with Bjørnefjell in the north.
Hyttemalmen	Hyttemalmen is hosted in the Upper Unit and outcrops over a strike length of 300m. The deposit is strongly folded and dips towards the south. The mineralisation is sliced by several isoclinal folded lenses of hornblende gneiss towards the south. Only limited drilling has been completed so far.
Mattilamalmen	Mattilamalmen is thought to be the southern extension of the Kjellmannsåsen deposit. Mineralisation is from both Upper and Lower Units. The deposit is strongly folded with isoclinal folds and dips towards the southwest.
Ørnevann	The deposit is hosted in the Upper Unit and is thought to be the bottom of a syncline. The limbs are strongly folded and deformed. The deposit dips slightly towards southeast. The southern part of the deposit is sliced with quartzite and hornblende gneiss that gives the deposit a complex structure.
Brattli	The deposit is hosted within the Upper Unit and is situated northwest of Ørnevann. The deposit is divided in two separated zones.
Boris Gleb	The Boris Gleb deposit is hosted within the Lower Unit and is comprised of a number of complex fold structures. The iron grades are relatively low and the mineralisation is strongly deformed. A number of dykes intersect the mineralisation.
Vakkeråsen	The prospect is hosted within the Lower Unit. Drilling indicates that the mineralisation is formed by several vertical lenses that are split by isoclinal folding of hornblende gneiss.
Varrevann	The prospect is hosted within the Lower Unit. The mineralisation consists of several vertical lenses that dip towards the east. The lenses are typically 10-30m wide and the horizon has a strike length of approximately 3km.
Grunntjern	The Grunntjern deposit lies between Søstervann and Tverrdalen. The deposit is a single horizon, isoclinal folded with axes plunging at depth towards the south. The body is sliced with zones of hornblende gneiss.
Söstervann	The deposit is hosted in the Upper Unit and the body is strongly deformed through folding and tectonic pressure. The structure seems to consist of isoclinal folds that dip slightly to the south. The mineralisation is believed to be a part of the western flange of the large Bjørnevatn syncline.
Björnefjell	The deposit lies within the western flange of the Bjørnevatn syncline. The deposit has mineralisation from both Upper and Lower Units. The mineralisation is strongly folded with steep axes that dip towards the south.

Deposit	Characteristics
Tverrdalen	The Tverrdalen deposit is divided into three different zones, Tverrdalen North, South and South West. The different zones are within the same mineralised unit. The deposit is hosted within the Lower Unit. The mineralisation is strongly folded and deformed, with isoclinal folds dipping towards the south.
Fisketind	The deposit is hosted within the southern part of the central ore zone and has mineralisation from both Upper and Lower Units. The mineralisation is strongly folded and deformed, with hornblende gneiss often sliced within the iron mineralisation. At depth and towards the west the mineralisation becomes almost horizontal.
Fisketind South - Jerntoppen North	The deposit is the southern extension of Fisketind. The mineralisation has a variable to low grade and has isoclinal folding with axes dipping slightly towards the south. A major deformation/ trust zone has divided the mineralisation into several separated zones.
Ørnåsen	The Ørnåsen structure host mineralisation from both Upper and Lower Units. The structure is complex with folding and structural deformation. The Ørnåsen mineralisation can be divided into four different bodies with different size and grade.
Teltbuktmalmen	The Teltbuktmalmen prospect has mineralisation from the Lower Unit. It is thought that Teltbuktmalmen geologically is connected to the Ørnåsen mineralised body.
Andehatten	Andehatten is the extension of Fisketind Øst towards the south. The mineralisation is a peaked syncline that is dipping towards south. In the southern part Andehatten is strongly deformed and not as uniform as in the north.
Jerntoppen	The Jerntoppen deposit is a uniform mineralised body with Jerntoppen North – Fisketind South. The prospect has mineralisation from both Upper and Lower Units. The mineralisation is strongly deformed and folded with axes dipping to the southeast. Lenses of hornblende are typically folded into and between the two Units.
Reitanmalmen	Reitanmalmen has grades typical of the Lower Unit. The mineralisation has bowed structure and dips slightly towards the southeast. The grade and width of the mineralised body varies

6 EXPLORATION HISTORY

6.1 Drilling

The majority of drilling on the Project has been completed using TT 46mm or similar diameter diamond core. Drilling has been completed from both surface and underground. The pattern of holes is fairly irregular as drilling was often carried out during active mining operations and this influenced access to drill sites.

In general, there is at least one hole on every east-west section spaced at 50 metres and several holes on every 100 metre section. In addition, there is a significant amount of drilling available from blast holes contributing to the geological interpretation.

The drillhole collars were surveyed by the mine surveyor, initially using theodolites and in later periods using total station equipment. Coordinates registered to the mine grid are considered to be of acceptable accuracy.

Down-the-hole surveying was carried out by an ABEM Reflex-Fotobor (Atlas-Copco) multi-shot optical instrument for drillholes completed from 1981 and by fluoric-acid etching for earlier drilling. The Reflex-Fotobor survey instrument is considered to be reliable and unaffected by magnetic interference. The fluoric-acid etching does not measure azimuth changes and therefore does not measure the actual hole path. The older and deeper holes drilled from surface are the most likely to have been affected by unrecorded hole deviation.

In addition to the surface drilling, a significant amount of underground exploration and production development has been completed at the Bjørnevatn deposit.

Much of the deeper portion of the Bjørnevatn deposit has been drilled from underground as it was deemed to be a more effective method of exploration. A 375m deep shaft of approximately 4m diameter was sunk at the northern end of the deposit. This was fitted out as a double shaft, with one half carrying development waste and the other half carrying men. An exploration decline was then developed, with drives on the -115, 190 and 235mRL. An exploration drive was then developed to the south towards the fold nose of the deposit on the -190mRL, or approximately 90m under the base of the current pit. This was split into two exploration drives as it reached the eastern limb of the Bjørnevatn deposit, with one drive towards the northwest and the other towards the southeast. A total of 2,450m of exploration drives were developed. Detailed geological mapping was completed throughout these drives and incorporated into the geological interpretation.

Underground fan drilling was completed at the Bjørnevatn deposit during mining. Holes were drilled on 100m spaced sections from the exploration drives.

The last major drilling programme was carried out in 1985. A total of 111 diamond holes for 18,703 metres were drilled. The main objective of this program was to adequately explore the southern deposits, which at that time remained unmined. The Bjørnevatn deposit was considered to be well tested by the pre-1983 drill programmes. Of the 111 new drillholes, 26 were completed in the West pit area and the remainder at the southern deposits.

The combined dataset relating to the Sydvaranger Iron Project comprises some 781 drillholes for an aggregate of 114,961m as shown in Table 6.1_1.

Table 6.1_1
Sydvaranger Iron Project
Summary of Core Drilling

Project	Number of Holes	Total Metres	Average Spacing	Maximum Length
Bjørnevatn	323	55,473	50	760
Kjellmannsåsen	25	2,962	50	258
Fisketind Øst	44	7,449	50	296
Oskarmalmen	13	2,156	50	203
Hyttemalmen	5	426	100	100
Mattilamalmen	5	481	50	99
Ørnevann / Brattli	7	643	50/250	117
Boris Gleb	10	1,059	50	144
Vakkeråsen	9	1,465	200/500	232
Varrevann	17	1,837	100	366
Grunntjern	21	2,468	50	225
Söstervann	29	4,620	50	644
Björnefjell	71	3,746	50	415
Tverrdalen/ Tverrdalen South West	90	11,884	50	331
Fisketind/Fisketind South	60	9,637	50	322
Teltbuktmalmen	3	302	100	128
Andehatten	2	406	650	207
Jerntoppen	45	7,767	50	263
Reitanmalmen	2	180	300	94
Total	**781**	**114,961**		

The logging and sampling of drill core and the interpretation of the results was performed by Sydvaranger and qualified contract geologists. Geological interpretations were periodically updated using blast hole information and susceptibility meter probing of holes. The latter method readily identifies the sharp contacts of the magnetic iron formation.

Geologically defined core intervals ranging from a few centimetres to several metres were sampled, based on mineralogical and textural similarity in the iron formations. In most cases 30% to 40% of the whole core from each interval was taken as a representative sample. Each sample was then assayed by the Sydvaranger laboratory. The remainder of each interval was bagged, labelled and stored for reference. The readily identifiable waste rocks were discarded without any testing or analysis.

The above sampling procedure is unconventional and would not be acceptable for gold or base metal mineralisation, however it is unlikely that the practice has introduced a bias given the homogenous nature of the mineralisation. NIL intends to sample half core intervals in future.

6.2 Mapping

The iron formations in the mine area typically outcrop and often form prominent ridges. The banded iron formations are readily distinguished from the country rock and the area has been subjected to detailed surface mapping which has identified the majority of the known deposits. In isolated cases the iron formations have limited or no surface outcrop.

This surface mapping has been incorporated into the geological interpretations as part of the grade estimation process. The maps produced for each prospect are held at the mine site and are in the process of being digitised.

7 DEVELOPMENT HISTORY

7.1 Mining History

Prior to the development of the magnetite iron ore mine in 1910, the surrounding area was largely uninhabited, except for the Sami reindeer herders and a small fishing village at Kirkenes.

Sydvaranger AS was founded in 1860 and the plant was commissioned in 1910. Production from the mine has been carried out continuously since 1910 apart from interruptions during the two World Wars. The mine has had three phases of development, being 1910 -1939, 1952 -1969, and 1969 -1997.

During the first period, mining was restricted to the Bjørnevatn pit, and processing was limited to crushing and concentrating. At this stage, tailings were discharged into Langfjorden to the west and the relatively small waste dumps were clustered around the pit in the north.

During the Second World War, the German army occupied the area to provide a staging post for their invasion of Russia. The Russian nickel mines immediately across the border and the iron ore mines at Bjørnevatn were considered to be of strategic importance to the German war effort. The Allies bombed and destroyed the Kirkenes facilities to prevent the Germans from producing iron ore.

The plant was rebuilt in the early 1950's using funds provided in part by the Marshall Plan, as it was deemed to be of regional strategic importance given the proximity to the Russian border. Government of Norway ownership of the mine in the post Second World War period varied between 87% and 100%.

In 1969, Sydvaranger AS commenced production of acid pellets for use in steel mills. This was followed by the progressive production of high grade magnetite concentrate in 1989, a hard ferrite product in 1994 and a pigment product in 1995.

Ore production from the southern satellite ore bodies commenced in 1972 at Grundtjern, followed by Søstervann in 1974, Tverrdalen in 1976, Fisketind in 1979, Bjørnefell in 1984 and Jerntoppen in 1987.

In 1985, a decision was taken by the Norwegian government to close the mine by 1995. At this time, the mine and associated companies employed 1,400 people and was run as a 'social' producer, with maximising employment being a major factor in the operation of the mine.

The mine management attempted to extend the mine life by investigating the potential to produce higher value products and developing an underground mine beneath the Bjørnevatn open pit. This resulted in a limited extension to operations, but mining was completed in 1996 and processing ceased in April 1997.

Table 7.1_1 contains the total ore tonnes mined by deposit since commencement of the operation. In excess of 200Mt of magnetite iron ore has been mined, making it one of the largest iron ore mines in Europe.

Table 7.1_1
Sydvaranger Iron Project
Historical Production by Deposit

Deposit	Mining Method	Period	Ore Mined (Mt)
Bjørnevatn	Open Pit	1910-1997	146
Bjørnevatn	Underground	1992-1997	2
Grundtjern	Open Pit	1972-1977	5
Søstervann	Open Pit	1974-1980	7
Tverrdalen	Open Pit	1976-1987	26
Fisketind	Open Pit	1979-1985	8
Bjørnefjell	Open Pit	1984-1986	2
Jerntoppen	Open Pit	1987-1993	8
Total			**204**

7.2 Underground Development

During the period from 1992-1997, an underground mine was developed below the West Bjørnevatn pit. This consisted of three development levels (-118mRL, -198mRL and -234mRL) accessed by a decline from the floor of the West pit. The production drives also intersected the exploration drive under the West pit.

One stope of approximately 1.2Mt was extracted, while a second stope was partially extracted for 0.5Mt of ore.

The base of the production drive was approximately 140m below the base of the current West pit, and 40m below the base of the pit in the NIL Development Plan.

7.3 Ownership Following Closure

Following closure of the mine and concentrator, the Norwegian Government sold some of the non-mining related assets of Sydvaranger AS, such as the power company and real estate.

Sydvaranger AS entered into an agreement with Arctic Bulk Minerals ('ABM') for the sale of the mining and production assets in November 1997. ABM was a subsidiary of Australian Bulk Minerals, which was at that time the owner of the Savage River magnetite mine in Tasmania. ABM carried out several studies into the operational viability. These studies included:-

▪ Engineering and Cost Study	Behre Dolbear	January 1999
▪ Engineering and Cost Study (Concentrator)	DevMin	March 1998
▪ Kjellmannsåsen Mine Design	AMDAD	February 1998
▪ Resource and Reserve Assessment	MinServe	December 1997
▪ Slope Stability Assessment	Golder	April 1998

Various funding options to finance the Project were investigated, including a listing on the Oslo Stock Exchange. For a variety of reasons, ABM was not able to raise the necessary finance, and withdrew from the Project in 2001.

The government of Norway sold Sydvaranger AS to Sør-Voranger Municipality and Varanger Kraft in 2001, which then sold the company to Tschudi in June 2006. NIL entered into an agreement with Tschudi in April 2007 to list the mining assets on the ASX.

8 MINERAL RESOURCES AND ORE RESERVES

8.1 Mineral Resources

In excess of 23 separate magnetite deposits have been identified to date. These range in size from several million tonnes to several hundreds of millions of tonnes of >30% $Fe_{(total)}$ mineralisation. Grade estimates have been completed on a number of the deposits by the previous owners and their consultants. In August 2007, RSG Global completed Mineral Resource estimates for three deposits, namely Bjørnevatn, Kjellmannsåsen and Fisketind Øst.

The largest and most economically significant is the Bjørnevatn deposit, which has represented the major ore source since the mine opened. In addition, the other two smaller deposits that NIL plans to develop under the current Development Plan have Inferred resources totalling 51 million tonnes grading 32% $Fe_{(total)}$.

8.1.1 Historical Grade Estimates

Prior to closure in 1997, the Sydvaranger AS management procedure for estimating deposits differed from the JORC recommended methods in that only in-pit tonnages are quoted (i.e. recoverable mineral inventory was reported and not the total mineralisation above a nominated cutoff grade).

In general, all grade estimates completed by the mine management were based on sectional interpretation using a polygonal method. Pit designs have been manually constructed around the interpreted mineralisation on sections and then transferred to plans. The in-pit grade tonnage was then estimated by averaging sampled intervals, weighted by surface area (volume).

Australian Mine Design and Development (‘AMDAD’) completed preliminary grade estimates of the Bjørnevatn and Kjellmannsåsen deposits in January 1998 and February 1998, respectively. The databases were supplied to AMDAD by The Minserve Group (‘TMG’). Geological models were constructed based on digitised geological sections provided by TMG. The grades and tonnages were estimated by AMDAD using inverse distance squared algorithms. AMDAD considered the estimates preliminary and not appropriate for classification. These estimates formed the basis of the ABM mine planning work.

A series of sectional grade estimates were completed for the Tverrdalen South West, Jerntoppen, Oskarmalmen and Hyttemalmen deposits by ABM between 1998 and 2001. The estimates were completed using sectional polygonal methods, extending the volume to half way between each section.

The Sydvaranger Mine completed grade estimates of the Mattilamalmen, Ørnevann, Brattli, Boris Gleb, Vakkeråsen and Varrevann deposits in 1985. These estimates were also completed using sectional polygonal methods.

Table 8.1.1_1 contains a list of the historic estimates of mineralisation for the more significant remnant deposits. These historic estimates provide an indication of the quantum of mineralisation for the sake of transparency, but have not been classified in accordance with the JORC Code guidelines and should therefore not be considered as Mineral Resources in accordance with JORC.

Table 8.1.1_1
Sydvaranger Iron Project
Historic Estimates of Mineralisation

Deposit	Grade (% Fe Mag)		Tonnage (Mt)	Date	Notes	Estimated By	Source
	Upper	Lower					
Bjørnevatn	32		252.4	January 1998	Total Deposit	AMDAD	ABM in BDA Report
Kjellmannsåsen	28		23	February 1998	Total Deposit	AMDAD	ABM in BDA Report
Tverrdalen South West		24	29.8	June 2001	In-pit Volume	Einar Berg	ABM
Fisketind Øst		23	25	September 1983	In-pit Volume	Boliden Contech	
Jerntoppen	31	19	3.7	June 2001	In-pit Volume	Einar Berg	ABM
Oskarmalmen	29	21	4.8	October 1998	In-pit Volume	Collins & Muurmans	ABM in BDA Report
Hyttemalmen	31		1.8	October 1998	In-pit Volume	Einar Berg	ABM in BDA Report
Mattilamalmen	29	21	5	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Ørnevann	28		10	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Brattli	28		2	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Boris Gleb		21	20	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Vakkeråsen		26	5	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Varrevann	31	20	6	1985	In-pit Volume	Einar Berg	Sydvaranger Mine plan
Total	**19 – 32 (range)**		**388.5**				

It is uncertain that following evaluation and further exploration that a resource or reserve estimate will ever be delineated in accordance with the JORC Code for these prospects.

The historical estimates contained in Section 8.1.1 and Section 10.3 are based on data that was collected between 1956 and 1985. This information (predominately drilling data) was not collected in accordance with JORC Code accepted sampling and assaying procedures and has not been verified by RSG Global. There are no more recent estimates of the mineralisation contained in Section 8.1.1 and Section 10.3 of the RSG Global Independent Technical Report.

Northern Iron intends to commence an exploration program post listing (commencing June 2008) aimed at validating the historical data and confirming the presence of the mineralisation contained in these historical grade tonnage estimates. This will include twin drilling of existing drillholes and infill drilling to provide additional information on the continuity of the mineralisation. Assaying of the drill core will be carried out using internationally recognised laboratories with appropriate quality assurance/quality control measures as stipulated in the JORC Code. Additional surface topography information will be collected to enable accurate surface terrain models to be developed. Subject to the results of this work, the data will be collated into a database and reviewed by a Competent Person to determine if a resource in accordance with the JROC Code can be defined.

The process described above is expected to take up to 18 months to complete for all the prospects listed in the relevant sections. The process will be carried out sequentially, starting with the larger known prospects.

There is no guarantee that classification in accordance with the JORC Code of the mineralisation as identified above will occur in the short term, or at all.

8.1.2 Data Collection

Samples were prepared by crushing and screening down to –3mm. A 30g sub-sample was split out and pulverised for 60 seconds in a ring mill pulveriser to achieve a P80 of 45 microns.

Samples were routinely assayed for total iron content (Fe tot), acid soluble iron (Fe HCl), iron as magnetite (Fe mag), iron as silicate (Fe sil; Fe tot minus Fe sil)), degree of liberation and milling resistance (opposite of grindability).

Determination of total iron was completed at the Sydvaranger mine laboratory by a titrimetric method. The sample was dissolved in hydrochloric acid and hydrogen fluoride, and all iron was brought to a bivalent form, being titrated with potassium dichromate.

A Dings-Davis tube was used to determine the magnetic iron content of the samples. This test applies magnetic wet separation for smaller sample quantities. Opposite poles establish a zone with a magnetic field concentrating the magnetic material. Non-magnetic material passes the field. The water supply was adjusted carefully to ensure that non-magnetic substances are washed out of the moving magnetic field.

Milling resistance of ore samples was determined as the time required to reduce 1kg of dry sample from 100% -3mm (6 mesh) to 45% +150 mesh Tyler in a 10” NTH (Norwegian Institute of Technology) laboratory ball mill. The required measuring time in minutes is given as the ore sample’s milling resistance.

Standards and blanks from a reputable supplier in Sweden were added to each batch of samples in the concentrator laboratory to check the accuracy of the Sydvaranger AS laboratory and to reduce the risk of contamination between samples. In addition to the third party standards, Sydvaranger AS used their own internal samples as another means of checking the quality control within the laboratory.

8.1.3 Bulk Density Methods

The bulk density for the iron mineralisation was calculated by the Sydvaranger mine using a regression analysis formula based on studies into the correlation between the $Fe_{(total)}$, $Fe_{(mag)}$ grades and the bulk density.

The most recent of these studies was in March 1986 and sampled feed to the primary mill on a daily basis over a 6 week period. Samples containing the +12.5mm fraction weighing 500g were collected and the bulk density measured using a pycnometer.

The samples were analysed for $Fe_{(total)}$ and $Fe_{(mag)}$ at the concentrator laboratory and the relationship between bulk density and $Fe_{(total)}$ and $Fe_{(mag)}$ grades established using regression analysis to produce a formula to estimate bulk density based on both $Fe_{(total)}$ and $Fe_{(mag)}$ grades. The March 1986 report found that both analyses could be used to accurately predict bulk density, with the $Fe_{(total)}$ based formula providing a slightly better correlation.

Previous studies into the bulk density of the mineralisation have also been carried out by SINTEF in 1985 and Rostad in 1984. Both these studies measured the bulk density of core and rock samples from around the mine area and were used as the basis for the last mine plan prepared by Sydvaranger AS in 1985, with an average bulk density of 3.52 for the ore.

8.1.4 RSG Global Resource Estimates

RSG Global has completed Mineral Resource estimates for the Bjørnevatn, Kjellmannsåsen and Fisketind Øst deposits. Digital interpretations by AMDAD and scanned geological sections were used as a basis for the resource estimates. Geological and mineralogical information was digitised from the sections. Digital topographic and underground void data was used to deplete the models. The approximate position of the Fisketind pit was modelled and used to deplete the waste. Some information (including drillholes) missing from the supplied data was digitised from the sections and used in the estimate. The estimates were completed using Block Ordinary Kriging of $Fe_{(mag)}$ and $Fe_{(total)}$ in three-dimensional block models using Vulcan modelling software.

8.1.4.1 Drillhole Database

The drillhole databases for Bjørnevatn and Kjellmannsåsen have been previously compiled from various sources by ABM. RSG Global has assessed the various versions of the databases and has validated the latest databases (dated 1997) and compared this information with data received directly from site. The database for Fisketind Øst was received directly from site. RSG Global has undertaken a detailed review and validation of the supplied drillhole databases prior to loading into Vulcan mining software, wherein further visual validation was carried out. Errors identified during validation were corrected.

RSG Global believes that the validated databases have no material errors, so far as can currently be ascertained, and are suitable for use in resource estimation studies. Further validation against hard copy data located at the mine office in Norway is required to increase confidence in the database.

All resource modelling was completed on the Universal Transverse Mercator (‘UTM’) grid. Drill sections at Bjørnevatn correspond to the east-west UTM direction, whereas drill sections at Kjellmannsåsen and Fisketind Øst correspond to local grids oblique to the UTM grid.

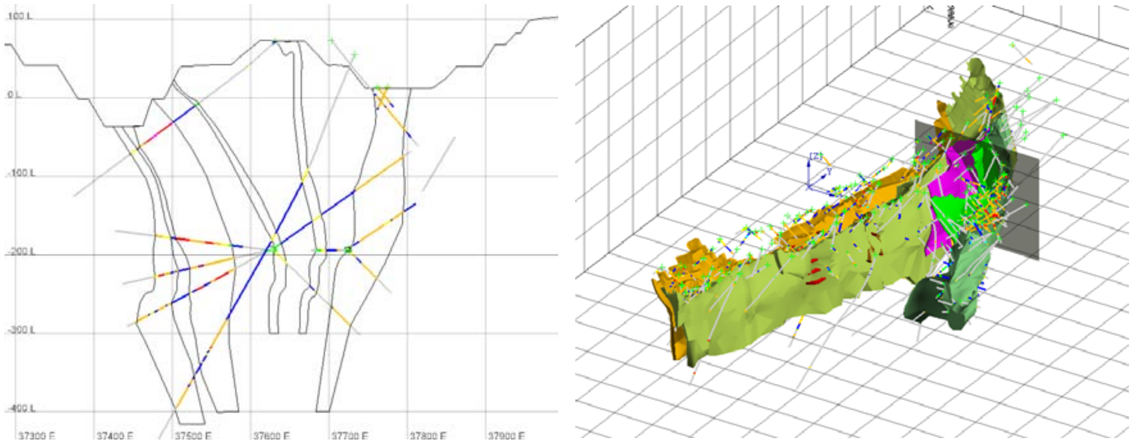
8.1.4.2 Geological Interpretation

Based on observations of the geology during the site visit and using all available geological and grade information, suitable mineralised domain boundaries have been interpreted and wireframes constructed to constrain resource estimation for the various deposits.

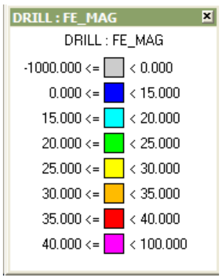
Interpretation and digitising of all mineralisation boundaries has been undertaken using a combination of east-west oriented cross sections and approximate northeast-southwest oriented cross sections (and wireframes produced by AMDAD in the case of the Bjørnevatn and Kjellmannsåsen deposits). The resulting digitised boundaries have been used to construct wireframe surfaces or solids defining the 3-D geometry of each interpreted feature. In addition, unmineralised late stage cross-cutting dykes of various lithologies, ages and orientations have been interpreted, based on various cross sectional interpretations supplied by Sydvaranger AS staff (and wireframes produced by AMDAD in the case of the Bjørnevatn deposit).

A total of five separate mineralised domains have been interpreted at Bjørnevatn, based principally on 100m spaced east-west oriented sections, along with intermediate 50m and 25m spaced sections (Figure 8.1.4.2_1). A complex series of cross cutting dykes interpreted by AMDAD were modelled to represent unmineralised material. AMDAD also produced wireframes of the underground decline and mined stopes at Bjørnevatn, and these have been imported into Vulcan and utilised for depletion of the final model.

Figure 8.1.4.2_1
Sydvaranger Iron Project
Bjørnevatn Deposit - Typical East-West Drillhole Cross Section (184,800mN) and Oblique View of Mineralised Domains (from Southeast)

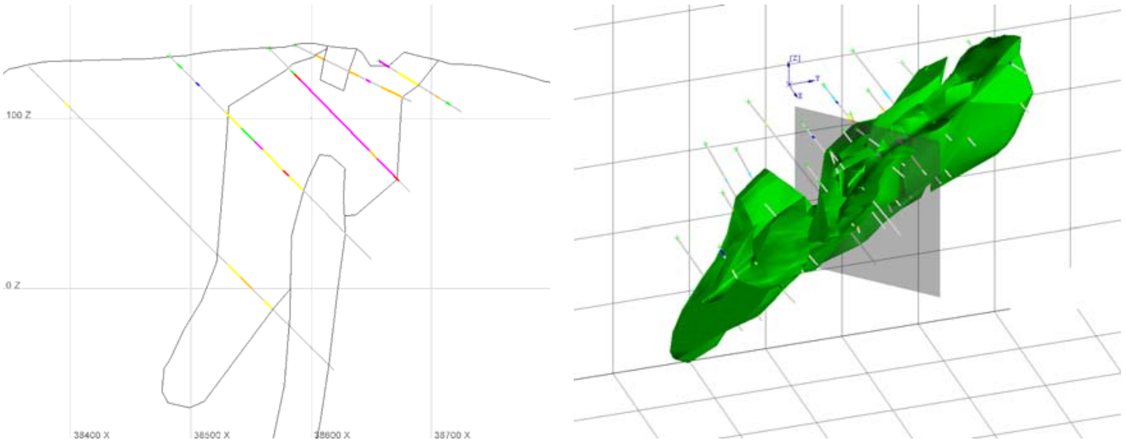


Note: some wireframes may not appear to intersect the mineralisation in the drillholes; this is due to the drillholes being located off section.



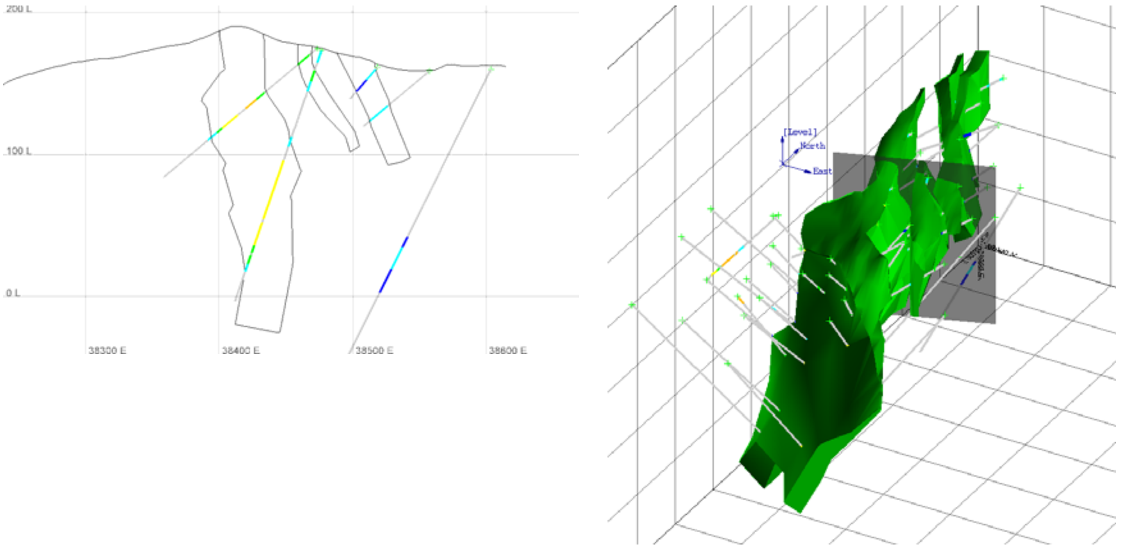
One mineralised domain and one unmineralised diabase dyke have been interpreted at Kjellmannsåsen, based on 100m spaced sections (Figure 8.1.4.2_2).

Figure 8.1.4.2_2
Sydvaranger Iron Project
Kjellmannsåsen Deposit - Typical Drillhole Cross Section (400mN Local Grid) and Oblique View of Mineralised Domains (from Southeast)



A total of three separate mineralised domains have been interpreted at Fisketind Øst. All dip steeply and are crosscut by four unmineralised late-stage cross-cutting dykes (Figure 8.1.4.2_3). The main mineralised domain changes orientation from south to north, dipping towards the west at the southern end, gradually steepening towards the north until it dips steeply east at the northern extremity.

Figure 8.1.4.2_3
Sydvaranger Iron Project
Fisketind Øst Deposit - Typical Drillhole Cross Section (Local Grid) and Oblique View of Mineralised Domains (from Southeast)



8.1.4.3 Surface Topography

Topographic control over the various deposits has been established on the basis of routine mine surveying, initially using theodolites and in later periods using total station equipment. In the case of Bjørnevatn and Kjellmannsåsen, the topographic models incorporate the open pits. The pit survey for Bjørnevatn appears to be accurate, however that for Kjellmannsåsen appears to be modelled on a small number of traverses. In addition, parts of the Bjørnevatn pit have been backfilled subsequent to mining and a second topographic model has been provided incorporating this material, enabling an accurate model of the current surface to be constructed. The data for Bjørnevatn and Kjellmannsåsen was supplied to RSG Global as Surpac format digital terrain models. The topography for Fisketind Øst was constructed from geological cross sections and has been appropriately extrapolated where necessary to enable suitable coverage for resource estimation.

RSG Global considers that the surface terrain models for Bjørnevatn and Kjellmannsåsen are of sufficient accuracy for resource modelling purposes, however additional survey work is necessary at Fisketind Øst for future resource category upgrades and ore reserve definition.

8.1.4.4 Statistical Analysis

Statistical analysis was undertaken for magnetic iron, based on 10m composites of the magnetic iron assay (Fe mag) data, constrained by the interpreted mineralisation domains. The sample lengths were statistically assessed prior to selecting an appropriate length on which to composite the data. Almost all samples at Sydvaranger have been collected using long downhole intervals, with the mean sample length for the deposits varying between 8m and 9m. A 10m unit length was used for data compositing. Any composites less than 10m long were included in the dataset, however the grade was length-weighted for the estimation purposes.

Descriptive statistics for the magnetic iron 10m composite data, sub-divided by estimation domain, are presented in Table 8.1.4.4_1.

Table 8.1.4.4_1
Sydvaranger Iron Project
Magnetic Iron Descriptive Statistics

Deposit	**Bjørnevatn**					**Kjellmannsåsen**	**Fisketind Øst**		
Domain	1	2	3	4	5	all	1	2	3
Number	1014	440	923	67	55	122	249	9	27
Minimum	0	0	0	0	0	0	6.24	14.1	11.2
Maximum	44.133	36.23	39.662	33.9	33.9	53.519	31.74	25.6	30
Mean	29.203	22.786	28.361	20.904	16.018	28.442	21.72	18.63	18.42
Median	32.56	26.818	31.9	24.85	20.996	28.929	23.1	17.8	18.4
Std Dev	8.819	10.567	8.62	10.744	12.84	8.827	6.15	3.51	4.37
Variance	77.779	111.655	74.297	115.44	164.874	77.908	37.82	12.31	19.14
Coeff Var	0.302	0.464	0.304	0.514	0.802	0.31	0.28	0.19	0.24

At Bjørnevatn, domains 1 and 3 have broadly similar characteristics, whereas domain 2 has a somewhat lower mean and higher variance. Domains 1 to 3 have negatively skewed distributions. Domains 4 and 5 show lower means and have fewer data. At Kjellmannsåsen, the data has a slightly negatively skewed distribution, with few higher grade samples forming an outlier around the 50% mark. At Fisketind Øst, only domain 1 has a significant number of composites, with very few samples in domains 2 and 3. Domain 1 has a negatively skewed distribution. Domains 2 and 3 show lower means.

Assessment of the composite outliers was completed to determine the requirement for high grade cutting of each of the input datasets applied in resource estimation. There are some higher grade composites within each grouped domain, however the mineralisation can be verified and identified visually, therefore cutting the outliers was considered overly aggressive and no high grade cuts were applied.

8.1.4.5 Variography

The variography generated for grade estimation is based on 10m composites coded within the interpreted mineralisation domains. Isatis geostatistical software was employed to generate and model the variography.

The fitted variogram models are presented in Table 8.1.4.5_1. The rotations are reported as X (rotation around Z axis), Y (rotation around Y`) and Z (rotation around X``), also referred to as the major, semi-major and minor axes respectively.

Table 8.1.4.5_1
Sydvaranger Iron Project
Magnetic Iron Grade Variography

Domain	Nugget	Isatis Rotation			Sill1	Range 1			Sill2	Range 2		
		Az	Ay	Ax		Major	Semi	Minor		Major	Semi	Minor
Bjørnevatn												
1	10	10	65	0	15	60	40	8	52.7	150	105	60
2	7.5	10	65	0	35	80	60	25	68.9	170	100	45
3	12	150	80	-180	20	45	35	25	42	320	250	140
Kjellmannsåsen												
all	10	-30	55	0	15	110	50	40	52.27	180	100	70
Fisketind Øst												
1	8.2	-70	0	70	20	73	45	20	12	193	78	50
2	8.2	-70	0	70	20	73	45	20	12	193	78	50
3	8.2	-70	0	70	20	73	45	20	12	193	78	50

At Bjørnevatn the modelled variography typically shows a low level of short-scale variability that is comprised of low (7% to 16%) relative nugget effects. Variography for domains 4 and 5 showed poor structure and variography, as such the variography for domain 3 has been applied to all. Large ranges have been modelled for all domains, with domain 3 in particular showing the greatest range. Also at Kjellmannsåsen, the modelled variography shows a low (12.9%) relative nugget. Large ranges have been modelled, with the majority of the non-nugget variance contained within the second modelled structure. At Fisketind Øst, domains 2 and 3 showed poor structure in the variography and the modelled variography for domain 1 was therefore applied to these domains (with altered rotations to account for local orientation). The modelled variography shows a moderate (20.4%) relative nugget. Large ranges have been modelled, with the majority of the non-nugget variance contained within the first modelled structure.

8.1.4.6 Grade Estimation

Resource estimations of Magnetic Iron and Total Iron were undertaken using Ordinary Kriging ('OK') for the various deposits. Other check estimates, including an inverse distance squared estimate, were also generated. The OK estimates were completed using the Vulcan implementation of the GSLib software library.

Resource block models were developed using block dimensions of 10m East by 25m North by 7mRL, with sub-blocking to 2.5m Easting by 2.5m Northing by 1mRL for the purpose of providing appropriate definition of the topographic surface, and geological and mineralisation zone boundaries. The interpreted lithologies, mineralised zones and topography have been coded to the block models; in addition, underground workings have been incorporated in the coding for the Bjørnevatn block model.

The OK estimates were based on the 10m composite data, applying a restricted number of composite data. A staged sample search was applied to the generation of the grade estimates, with a generalised approach as summarised below:-

- Pass 1 minimum of 8 and maximum of 12 composites collected within a 150mE x 100mN x 50mRL sample search. A maximum of 5 composites per drillhole were applied.
- Pass 2 minimum of 6 and maximum of 12 composites collected within a 300mE x 200mN x 100mRL sample search. A maximum of 5 composites per drillhole were applied.
- Pass 3 minimum of 4 and maximum of 12 composites collected within a 400mE x 250mN x 150mRL sample. A maximum of 5 composites per drillhole were applied. Pass 3 only applied if required.

The sample search parameters were based on iterative runs and were designed to restrict smoothing to appropriate levels. Adjustments were applied to sample searches to reflect the model orientation of mineralised zones, variography and data spacing. Table 8.1.4.6_1 provides the sample search parameters applied for each domain comprising each deposit.

Table 8.1.4.6_1
Sydvaranger Iron Project
Sample Search Parameters - Ordinary Kriging

Group Domain	Pass	Bearing (Z)	Plunge (Y)	Dip (X)	Major Axis (m)	Semi-Major Axis (m)	Minor Axis (m)	Min Samp	Max Samp	Max Per Holes
Bjørnevatn										
1 & 2	1	190	0	65	150	100	50	8	12	5
	2	190	0	65	300	200	100	6	12	5
	3	190	0	65	400	250	150	4	12	5
3	1	330	0	55	150	100	50	8	12	5
	2	330	0	55	300	200	100	6	12	5
	3	330	0	55	400	250	150	4	12	5
4 & 5	1	330	0	90	150	100	50	8	12	5
	2	330	0	90	300	200	100	6	12	5
	3	330	0	90	400	250	150	4	12	5
Kjellmannsåsen										
1	1	330	0	55	150	100	50	8	12	5
	2	330	0	55	300	200	100	6	12	5
Fisketind Øst										
1a (north)	1	160	0	-90	150	100	50	8	12	5
	2	160	0	-90	300	200	100	6	12	5
1b (south)	1	160	0	-75	150	100	50	8	12	5
	2	160	0	-75	300	200	100	6	12	5
2	1	160	0	80	150	100	50	8	12	5
	2	160	0	80	300	200	100	6	12	5
3	1	160	0	80	150	100	50	8	12	5
	2	160	0	80	300	200	100	6	12	5

A detailed visual and statistical review of the whole block estimate was conducted including:-

- Review of the block estimate and the composite data in cross section, long section, plan and oblique views;
- Comparison of the mean grade of the estimate versus the mean composite grade, subdivided by estimation domain;
- Stacked transects, comparing the 10m composite grade and the OK grade grouped by easting, northing and RL intervals.

The block model whole block estimates for each of the domain groups report mean grades showing acceptable to excellent reproduction of the corresponding composite datasets. Acceptable levels of reproducibility are noted between the input composite data and the block estimates on the basis of visual review. On this basis and the other validation routines, RSG Global believes the OK whole block estimates are appropriate and robust.

8.1.4.7 Bulk Density

A block model script was used to assign the density of ore based on Ordinary Kriged Magnetic Iron percentage. The density of un-mineralised material was set at a blanket value of 2.7t/m^3. Based on the Magnetic Iron percentage, the formulas used to calculate the density values are as follows:-

- Magnetic Iron ≥ 25%:- density = 2.564 + (0.0309 x OK Magnetic Iron percentage)
- Magnetic Iron < 25%:- density = 2.850 + (0.0194 x OK Magnetic Iron percentage)

RSG Global has not critically reviewed any of the original bulk density determinations used to derive the above formulas, however consider that the overall density values assigned to the block models are consistent with those anticipated from the style of mineralisation and determined during mining.

8.1.4.8 Resource Categorisation

Categorisation of the OK resource estimates for the interpreted domains has been carried out using the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, published by the Joint Ore Reserves Committee ('JORC') of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and Minerals Council of Australia (December 2004).

Inferred Resources have been defined using definitive criteria determined during the validation of the grade estimates, with detailed consideration of the JORC Code categorisation guidelines. In addition, and in accordance with JORC Code categorisation guidelines, only blocks within approximately 50m of informing samples have been classified as Inferred Resources, with any estimated blocks falling further than 50m from informing samples remaining unclassified. The resource categorisation has been based on the robustness of the various data sources available, including geological knowledge and interpretation, variogram models, drilling density and estimation statistics.

Although mining has taken place at Bjørnevatn and Kjellmannsåsen (from both open cut and underground sources), which has resulted in a vast amount of geological information and reconciliation data (Section 9.3.2.4), RSG Global has classified the estimates as Inferred Resources, as much of the information has yet to be incorporated into the models, together with a more detailed analysis of the drillhole data and geological mapping. NIL is planning to complete this additional work, as well as infill and extend the drilling, as part of the expansion scenario feasibility programme.

8.1.5 Mineral Resource Statement

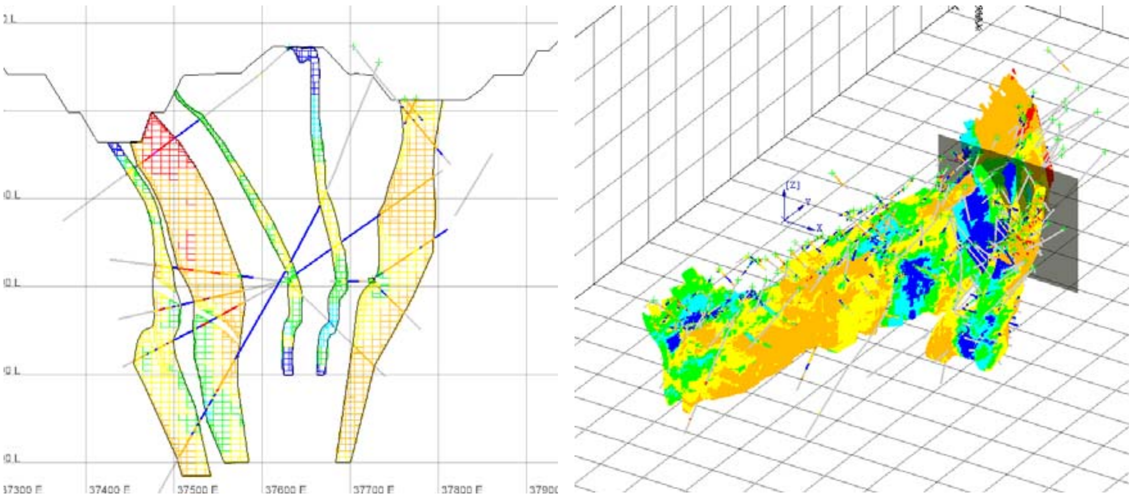
Reported Mineral Resources are based on the OK Magnetic Iron and Total Iron estimates generated using a 10mE x 25mN x 7mRL block size, using the lower cutoff grades stated.

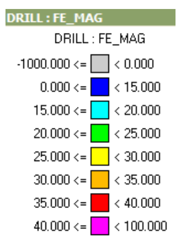
The Mineral Resource statement was compiled by Dr Jan de Visser of RSG Global, who assumes overall responsibility for the Mineral Resource estimations. Table 8.1.5_1 below provides a summary of the resources that have been reported for the Sydvaranger Iron Project.

RSG Global has completed resource estimates for three deposits as shown in Figures 8.1.5_1 to 8.1.5_3.

Table 8.1.5_1 Sydvaranger Iron Project Mineral Resource Summary 31st August 2007 10mE x 25mN x 7mRL Panel Estimate						
Cutoff Grade Fe Mag (%)	**Resource Category**	**Tonnes (Mt)**	**Fe Mag (%)**	**Fe Total (%)**	**Fe Mag (Mt)**	**Fe Total (Mt)**
Bjørnevatn						
10	Inferred	287	28	30	80	87
15		279	28	31	79	86
20		255	29	32	75	81
Kjellmannsåsen						
10	Inferred	22	28	33	6	7
15		22	28	33	6	7
20		21	29	33	6	7
Fisketind Øst						
10	Inferred	31	21	31	6	9
15		29	21	31	6	9
20		18	24	32	4	6
Total						
10	**Inferred**	**340**	**27**	**30**	**92**	**103**
15		**330**	**28**	**31**	**91**	**102**
20		**294**	**29**	**32**	**85**	**94**

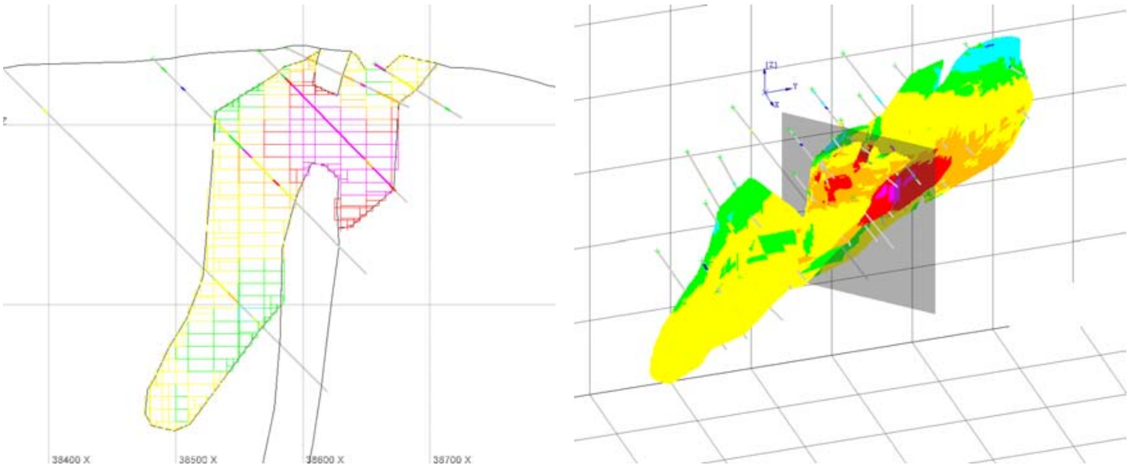
Figure 8.1.5_1
Bjørnevatn Deposit - Typical East-West Block Model Cross Section (184,800mN) and Oblique View (from Southeast)

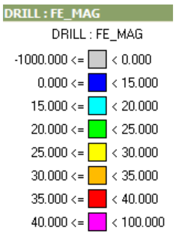




Note: Some wireframes may not appear to intersect the mineralisation in the drillholes; this is due to the drillholes being located off section.

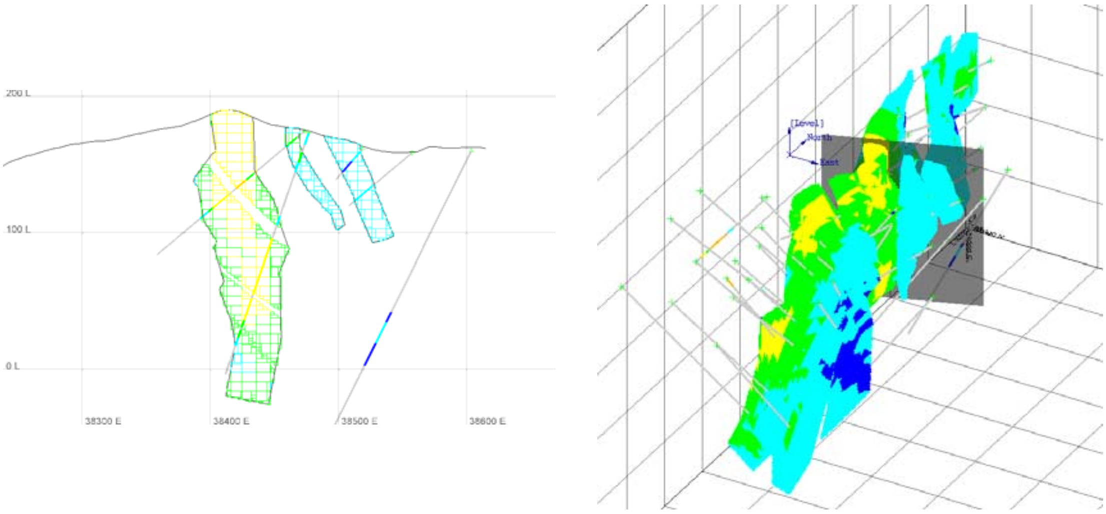
Figure 8.1.5_2
Kjellmannsåsen Deposit - Typical Block Model Cross Section (400mN Local Grid) and Oblique View (from Southeast)

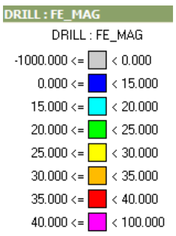




Note: Some wireframes may not appear to intersect the mineralisation in the drillholes; this is due to the drillholes being located off section.

Figure 8.1.5_3
Fisketind Øst Deposit - Typical Block Model Cross Section (Local Grid) and Oblique View (from Southeast)





Note: Some wireframes may not appear to intersect the mineralisation in the drillholes; this is due to the drillholes being located off section.

8.2 Ore Reserves

The Mineral Resources that have been estimated by RSG Global for the three principal deposits, Bjørnevatn, Kjellmannsåsen and Fisketind Øst, are classified as Inferred Resources, for reasons discussed in the previous sections. In the absence of either Measured or Indicated Resources, no Ore Reserves can be declared in accordance with the JORC Code guidelines.

NIL's Development Plan is presently based on in-pit Inferred Resources, referred to as the Mineral Inventory. NIL plans to incorporate the vast amount of mine data into the resource estimates in the near future with a view to upgrading the resources to the Measured or Indicated category which would be available for conversion to a Reserve.

9 MINING AND PROCESSING OPERATIONS

9.1 Historical Mining Operations

Sydvaranger has had a long history of mining, which has been conducted intermittently since the early 1900's. In excess of 200Mt of iron ore has been mined since operations commenced, however mining ceased in 1996 and processing ceased in April 1997.

Mining was carried out by employing a conventional drill & blast and truck & shovel mining method on a year round basis. Despite the extremely cold during winter, historic records indicate that operations were only halted when temperatures fell below -30ºC. This was typically in the order of 10 days per annum.

The latest mining equipment employed at Sydvaranger before operations ceased, comprised 150t Lectra haul trucks, a combination of PH 2100 and PH 2300 rope shovels, a fleet of Gardner Denver and Tamrock drill rigs drilling either 15" or 12 1/4" blast holes and miscellaneous ancillary equipment. Explosives (in the form of emulsion) were supplied by an on-site facility owned by Dyno, which still exists.

9.2 Proposed Mining Operations

9.2.1 Mineral Inventory

Ordinarily, in converting Mineral Resources to Ore Reserves, mining, metallurgical, economic, marketing, legal, environmental and other factors would be considered. The aforementioned factors are commonly referred to as the 'modifying factors'. No Ore Reserves have been declared for the Sydvaranger Iron Project. NIL's Development Plan is based on in-pit Inferred Resources, referred to as the Mineral Inventory.

The majority of the modifying factors developed for the Project are primarily based on historic operational data and the work carried out by BDA and AMDAD for ABM. The principal factors used in the determining the mineral inventory for the Project and the specialists responsible for determining these factors are listed in Table 9.2.1_1 below.

Table 9.2.1_1
Sydvaranger Iron Project
Summary of Specialists Responsible for the Modifying Factors

Modifying Factor	Specialist
Commodity Price	NIL
Mining	RSG Global
Metallurgical and Processing	NIL, RSG Global
Geotechnical	SINTEF[1] and Golder and Associates, RSG Global
General and Administration Cost	NIL
Governmental	NIL
Environmental	NIL

Note: 1. Department of Mining/Foundation for Scientific and Industrial Research at the Norwegian Technical College at the University of Trondheim

A summary of the principal modifying factors that have been considered for the Project are provided in the Table 9.2.1_2 below, with all monetary units denominated in US$.

Table 9.2.1_2
Sydvaranger Iron Project
Modifying Factors used in Mineral Inventory Determination

Item	Units	Value
Concentrate price (FOB)	US$/t conc.	48
Average mining cost	US$/t	2.38
Concentrator cost	US$/t	6.21
Fisketind additional Processing cost	US$/t	0.25
Extra over haulage satellite pits	US$/t/km	0.125
G&A	US$M/yr	2.8
Processing recovery	% of Fe	95
Concentrate grade	%	67.5
Mining dilution added	%	Nil
Mining recovery	%	97
Inter ramp slope angle	Degrees	55
Capital expenditure	US$M	100.2

The adopted concentrate price of US$48/t is considered very conservative in the current iron ore market.

Table 9.2.1_3 below provides a summary of the mineral inventory that was determined for the Sydvaranger Iron Project as at August 2007. The mineral inventory tabulated for the Project was based on pit optimisation studies and a mining study that targeted a 20 year mine life.

Table 9.2.1_3
Sydvaranger Iron Project
Mineral Inventory as at August 2007

Deposit	Mineral Inventory	
	Tonnes [Mt]	Total Fe [%Fe]
Bjørnevatn	110.8	32.5
Fisketind Øst	7.8	30.9
Kjellmannsåsen	13.7	33.2
Total	**132.3**	**32.5**

9.2.2 Mining Method

It is envisaged that a conventional open pit mining method, including drill and blast followed by load and haul, will be employed at the Project. Drilling and blasting will be performed on benches between 10m and 15m in height. The mining fleet would most likely consist of between 250t and 400t sized hydraulic shovels, 100t to 150t off highway dump trucks, and drilling and ancillary equipment. It is envisaged that the selected hydraulic shovels will be larger than usual in the circumstances to allow for the high bulk density of 3.5t/m^3.

9.2.3 Geotechnical Input

Golder and Associates Ltd ('Golder') provided geotechnical recommendations for pit designs in the BDA study of 1999. The Golder report was based on a review of work carried out by the Department of Mining/Foundation for Scientific and Industrial Research at the Norwegian Technical College associated with the University of Trondheim ('SINTEF') to determine the maximum wall slope angles of the Bjørnevatn open pits.

Golder's conclusions after examination of the existing Bjørnevatn pit walls were as follows:-

- Stability conditions are generally good.
- 2 or 3 fault-induced slope instabilities exist in the present pit. These had been appropriately dealt with by inducing failure or by blasting back to the failure plane.
- The well developed foliation present in the ore controls slope stability, particularly in the North footwall of the Bjørnevatn West pit.
- The recommended slope angle on the northern footwall of the West pit is that the overall inter-ramp angle should not exceed that of the foliation, either within ore or waste rock that fringes the ore.
- The commended slope on the southern footwall of the West pit is not to exceed an inter-ramp angle of 55º.

For the purpose of the latest mining study by RSG Global, an overall slope angle (including a ramp system) of 46º was adopted. This is flatter than the 55º recommended by Golder and there is potential to improve on the slope angles.

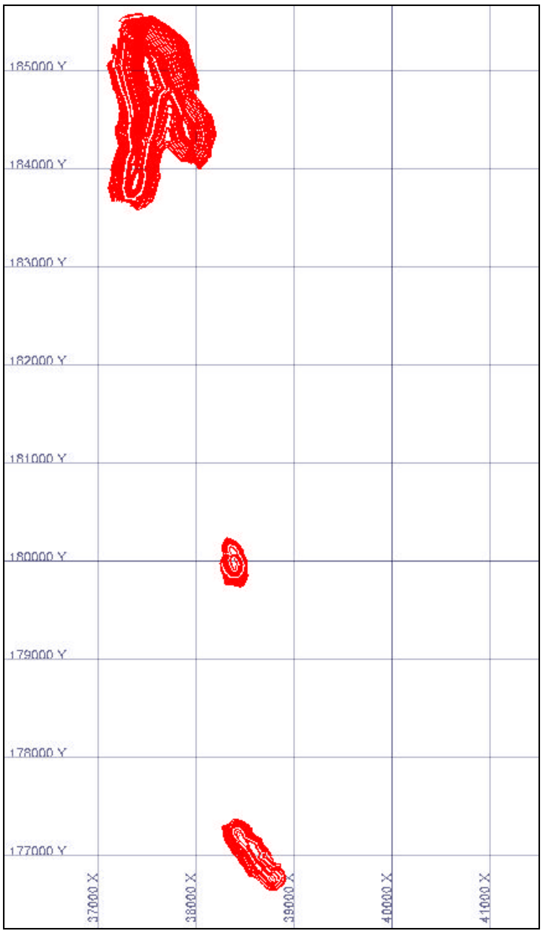
9.2.4 Hydrogeology and Hydrology Input

No major water issues are anticipated and the existing underground infrastructure may be utilised to facilitate de-watering of the pits.

9.2.5 Mine Design

Preliminary pit design work has been completed by RSG Global for the Bjørnevatn, Fisketind Øst and Kjellmannsåsen pits. The Bjørnevatn pit is the largest, where it is envisaged that the larger off-highway rear dump trucks will be utilised and, as such, a wider ramp of 30m was incorporated into the design. In the main, the pits were designed with an inter-ramp slope angle of 55º and a ramp gradient of 10%. The two smaller pits were designed with a ramp width of 22m and a ramp gradient of 10%. Figure 9.2.5_1 provides an overview of the pit designs that were developed for the Sydvaranger Iron Project.

Figure 9.2.5_1
Pit Design Overview



9.2.6 Mining Recovery and Dilution

A mining recovery of 97% was assumed and no additional dilution was applied to the mining block model.

9.2.7 Mining Schedule

RSG Global has generated an annual mine production schedule for the Sydvaranger Iron Project.

The main mining constraint applied to the mine production schedule was a maximum total material movement of 30Mtpa and a mill feed mining rate of 7Mtpa, producing approximately 3Mtpa of magnetite concentrate.

The Bjørnevatn pit is the largest pit, producing approximately 87% of the total material movement and approximately 84% of the total mill feed.

The Bjørnevatn pit contains approximately 15 million cubic metres of water, which will require 14 months to be de-watered. In addition, a major pre-strip of approximately 16Mt will be required in order to expose sufficient mill feed to sustain the required milling rate. It is envisaged that between approximately 2 to 2.5 years of pre-stripping at Bjørnevatn will be required to maintain a minimum mill feed rate of 3Mtpa. The mill feed for the first year of production will mainly come from Kjellmannsåsen, which has a low strip ratio, whilst still achieving a reasonable $Fe_{(total)}$ grade. The mine production schedule shows that both Kjellmannsåsen and Fisketind Øst will be mined out within the first 5 years of operation, after which the Bjørnevatn pit will be the sole source of mill feed.

Table 9.2.7_1 displays a summary of the mine production schedule that was developed for the Sydvaranger Iron Project.

9.2.8 Mining Capital Costs

Mining will be carried out on an owner-operated basis, as was previously the case. The mining fleet is expected to be lease financed under normal equipment supplier terms.

The pre production mining capital cost attributable to NIL (excluding mine equipment which is to be finance leased) has been estimated at US$15.6 million, as shown in Table 9.2.8_1 below.

In addition to the above costs, mining replacement capital costs are estimated at approximately US$1.3 million over the remainder of the mine life.

The initial value of the mine production equipment is estimated at US$43 million.

9.2.9 Mining Operating Costs

The mining operating costs are based on an owner-mining scenario, derived from RSG Global's in-house cost database, along with historic production data at Sydvaranger and local labour, fuel and explosives costs. The average mine operating cost will be approximately US$2.38/t mined, the breakdown of which is shown in Table 9.2.9_1.

At the average waste to ore ratio of 2.1:1, the average mining cost per tonne of mill feed equates to US$7.25.

Table 9.2.7_1

Sydvaranger Iron Project

Summary Mine Production Schedule

Period	Bjørnevatn						Kjellmannsåsen						Fiskatind						Total					
	Total	Waste	Strip Ratio	Ore	Total Fe	MagFe	Total	Waste	Strip Ratio	Ore	Total Fe	MagFe	Total	Waste	Strip Ratio	Ore	Total Fe	MagFe	Total	Waste	Strip Ratio	Ore	Total Fe	MagFe
	[Mt]	[Mt]	[w:o]	[Mt]	[%]	[%]	[Mt]	[Mt]	[w:o]	[Mt]	[%]	[%]	[Mt]	[Mt]	[w:o]	[Mt]	[%]	[%]	[Mt]	[Mt]	[w:o]	[Mt]	[%]	[%]
0	5.0	5.0																	5.0	5.0				
1	12.2	11.5	17.5	0.7	24.1%	22.5%	11.6	6.1	1.1	5.5	33.1%	28.7%	2.2	1.4	1.9	0.8	28.5%	19.8%	25.9	19.0	2.8	6.9	31.8%	27.1%
2	14.1	11.1	3.8	2.9	31.3%	28.9%	6.8	4.3	1.6	2.6	36.5%	31.6%	4.6	3.1	2.1	1.5	30.9%	22.7%	25.5	18.5	2.6	7.0	33.1%	28.6%
3	12.0	8.6	2.5	3.4	31.9%	29.0%	10.6	9.4	7.5	1.2	29.7%	24.3%	4.6	2.2	1.0	2.3	31.0%	22.7%	27.2	20.2	2.9	7.0	31.2%	26.1%
4	18.4	15.4	5.2	3.0	32.8%	29.4%	5.5	3.6	1.9	1.9	32.1%	27.1%	3.9	1.7	0.8	2.1	31.9%	24.2%	27.7	20.7	3.0	7.0	32.3%	27.2%
5	23.6	20.1	5.8	3.5	33.0%	29.6%	4.1	1.6	0.7	2.5	32.7%	28.1%	1.4	0.3	0.3	1.1	30.3%	22.8%	29.1	22.1	3.2	7.0	32.4%	28.1%
6	29.6	22.6	3.2	7.0	33.1%	30.0%					0.0%	0.0%					0.0%	0.0%	29.6	22.6	3.2	7.0	33.1%	30.0%
7	29.6	22.6	3.2	7.0	33.8%	30.9%					0.0%	0.0%					0.0%	0.0%	29.6	22.6	3.2	7.0	33.8%	30.9%
8	29.7	22.7	3.2	7.0	33.3%	30.8%					0.0%	0.0%					0.0%	0.0%	29.7	22.7	3.2	7.0	33.3%	30.8%
9	29.6	22.6	3.2	7.0	33.0%	30.3%					0.0%	0.0%					0.0%	0.0%	29.6	22.6	3.2	7.0	33.0%	30.3%
10	30.6	23.6	3.4	7.0	31.3%	28.9%					0.0%	0.0%					0.0%	0.0%	30.6	23.6	3.4	7.0	31.3%	28.9%
11	26.4	19.4	2.8	7.0	31.5%	29.1%					0.0%	0.0%					0.0%	0.0%	26.4	19.4	2.8	7.0	31.5%	29.1%
12	17.1	10.1	1.4	7.0	32.5%	30.0%					0.0%	0.0%					0.0%	0.0%	17.1	10.1	1.4	7.0	32.5%	30.0%
13	13.8	6.8	1.0	7.0	32.5%	30.0%					0.0%	0.0%					0.0%	0.0%	13.8	6.8	1.0	7.0	32.5%	30.0%
14	12.2	5.2	0.7	7.0	32.3%	29.8%					0.0%	0.0%					0.0%	0.0%	12.2	5.2	0.7	7.0	32.3%	29.8%
15	11.2	4.3	0.6	7.0	32.1%	29.7%					0.0%	0.0%					0.0%	0.0%	11.2	4.3	0.6	7.0	32.1%	29.7%
16	10.7	3.7	0.5	7.0	32.2%	29.8%					0.0%	0.0%					0.0%	0.0%	10.7	3.7	0.5	7.0	32.2%	29.8%
17	10.5	3.5	0.5	7.0	32.2%	29.9%					0.0%	0.0%					0.0%	0.0%	10.5	3.5	0.5	7.0	32.2%	29.9%
18	9.9	2.9	0.4	7.0	33.5%	31.2%					0.0%	0.0%					0.0%	0.0%	9.9	2.9	0.4	7.0	33.5%	31.2%
19	7.6	1.2	0.2	6.4	33.9%	31.7%					0.0%	0.0%					0.0%	0.0%	7.6	1.2	0.2	6.4	33.9%	31.7%
Total	**353.7**	**242.9**	**2.2**	**110.8**	**32.5%**	**30.0%**	**38.6**	**24.9**	**1.8**	**13.7**	**33.2%**	**28.5%**	**16.5**	**8.8**	**1.1**	**7.8**	**30.9%**	**22.8%**	**408.9**	**276.6**	**2.1**	**132.3**	**32.5%**	**29.4%**

Table 9.2.8_1 Sydvaranger Iron Project Pre Production Mining Capital Costs	
Item	**US$M**
Mining hardware and software	0.4
Access to Satellite pits	0.5
De-watering Bjørnevatn	1.1
Pre-strip costs	13.6
Total	**15.6**

Table 9.2.9_1 Sydvaranger Iron Project Average Mine Operating Costs		
Item	**Cost [US$/t mined]**	**Cost [US$/t mill feed mined]**
Drill and blast	0.63	1.93
Excavate, load and haul	1.11	3.39
Ancillary	0.25	0.75
Equipment ownership cost	0.27	0.82
Mine supervision	0.12	0.36
Total	**2.38**	**7.25**

9.3 Processing Operations

9.3.1 Historical Processing

Iron concentrate and/or pellets have been produced from magnetite ore at Kirkenes since 1910. With the exception of the period surrounding the Second World War, production continued until approximately 1997, when the mine and processing facility were closed, and placed under care and maintenance.

At the time of closure in 1997, the Sydvaranger processing facility was producing iron concentrate and/or pellets at a rate of approximately 1.3Mtpa from a total iron ore feed of approximately 3.1Mtpa.

The following major equipment and infrastructure were in place at that time:-

- Primary crushing and cobbing at the Bjørnevatn mine site.
- Rail transport of ore to the Kirkenes secondary and tertiary crushing plant.
- Conventional beneficiation plant using primary and secondary milling, magnetic separation, flotation, thickening and filtration.
- Pelletisation using a grate kiln pellet plant.
- Bulk storage and ship loading at the Kirkenes port facility.

The maximum throughput achieved through the concentrator was 6Mtpa in 1970. This was achieved prior to production limitations resulting from a mismatch in the capacities of the pelletising plant and the concentrator sections.

The recovery of iron concentrate and/or pellets was achieved using conventional crushing, grinding and beneficiation techniques. Run of mine ('ROM') ore was primary crushed ahead of cobbing to remove any liberated non-magnetic waste (~5%). After cobbing, the primary crushed ore was railed approximately 8km to the main processing facility at Kirkenes, where it was secondary and tertiary crushed in open circuit to produce mill feed. Open circuit primary milling and closed circuit secondary milling with magnetic separation was employed to produce a magnetite concentrate. The magnetite concentrate was also subjected to flotation in some instances to further reduce silica levels when high grade concentrate was required for the pellet plant. The magnetite concentrate was then vacuum filtered and conveyed to the pellet plant, whilst the non-magnetic tailings were discharged to the fjord approximately 275m offshore.

The Sydvaranger processing facility achieved consistently high recoveries of magnetite from the various ore sources throughout its life, averaging 96.5% for the period from 1984 to 1995 prior to closure. The average total iron grade in the concentrate for the same period was 67.8%.

Table 9.3.1_1 contains a summary of the production from 1984 to 1995.

9.3.1.1 Primary Crushing and Cobbing

Two 54 inch Nordberg gyratory crushers were utilised to reduce ROM ore to a nominal P_{80} of 150mm. Each primary crusher had a capacity of approximately 3,000tph and were direct fed by 150t haul trucks. The gyratory crushers were installed in 1952 and overhauled in 1986. Installed above the crushers is a 100t overhead gantry crane capable of servicing all of the major crusher components and assisting in clearing crusher blockages. A mobile rock breaker was also utilised to assist in clearing crusher blockages.

The gyratory crushers were not fitted with hydrosets and hence had limitations in respect to gap adjustment, tramp protection and clearance of blockages. The operation utilised the standby crusher during maintenance downtime and when crusher blockages occurred. Each crusher was capable of processing in excess of 18Mtpa of ore feed at 70% utilisation.

The primary crushed material discharged into 200t bins, under which 3.5m by 1.5m wide reclaim belt feeders delivered the material to 1.2m wide conveyor belts that took the material approximately 360m to the primary cobbing plant.

The primary cobbing plant had two lines, with a combined nominal capacity of approximately 18Mtpa at 70% utilisation (1,500tph each stream) and with two stages of low intensity magnetic separation. The non-magnetic fraction was conveyed to a 4,000t open stockpile, whilst the magnetic fraction was discharged to a 35,000t underground silo. The cobbing plant was equipped with dust collection and dust vacuuming systems, and could be bypassed when required.

Table 9.3.1_1

Sydvaranger Iron Project

Production Summary from 1984 to 1995

		1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Average
Feed tonnage	Mtpa	3.703	3.210	3.423	3.084	2.889	3.015	3.205	2.741	3.050	2.898	3.195	3.039	3.121
Concentrating Tonnage	Mtpa	1.376	1.244	1.422	1.318	1.320	1.265	1.317	1.162	1.282	1.285	1.466	1.376	1.319
Operating Hours*	Hrs	6,569	5,054	5,549	3,983	3,865	4,079	4,514	3,903	4,321	4,252	4,934	5,120	4,679
Mill Throughput	Tph	564	635	617	774	747	739	710	702	706	681	648	593	667
Feed Grade	%Fe(mag)	25.25	26.48	28.54	29.29	31.10	29.07	28.44	29.67	29.23	30.85	32.12	32.33	29.26
	%Fe(non-mag)	7.08	5.82	4.78	3.72	2.95	3.00	2.79	2.97	3.21	3.22	2.69	2.77	3.83
	%Fe(total)	32.33	32.30	33.32	33.01	34.05	32.07	31.23	32.64	32.44	34.07	34.81	35.10	33.09
Concentrate Grade	%Fe(mag)	65.63	66.26	66.56	66.73	66.70	66.99	66.91	67.26	67.24	67.05	67.19	67.44	66.80
	%Fe(non-mag)	1.48	1.27	1.05	0.93	1.14	1.06	1.05	0.74	0.80	0.73	0.70	0.63	0.98
	%Fe(total)	67.11	67.53	67.61	67.66	67.84	68.05	67.96	68.00	68.04	67.78	67.89	68.07	67.78
	%SiO2	5.12	5.09	5.09	4.72	4.70	4.68	4.85	4.83	4.76	4.93	4.81	4.81	4.87
Tails Grade	%Fe(mag)	1.37	1.33	1.52	1.35	1.15	1.65	1.62	2.01	1.65	2.01	2.39	3.29	1.77
	%Fe(non-mag)	10.39	8.70	7.43	5.80	4.47	4.40	4.00	4.61	4.96	5.20	4.38	4.54	5.92
	%Fe(total)	11.76	10.03	8.95	7.15	5.62	6.05	5.62	6.62	6.61	7.21	6.77	7.83	7.69
Recovery	%Fe(mag)	96.59	96.92	96.89	97.36	97.99	96.71	96.64	96.10	96.73	96.37	95.97	94.43	96.51
	%Fe(non-mag)	7.77	8.45	9.13	10.68	17.66	14.83	15.46	10.56	10.48	10.05	11.94	10.30	10.78
	%Fe(total)	77.14	80.98	84.30	87.59	91.03	89.05	89.39	88.31	88.19	88.22	89.48	87.79	86.59

* Operating hours are lower than achievable as the concentrator's capacity exceeded the pelletising plant's capacity.

9.3.1.2 Rail Transport

Material from the cobbing plant discharge bins was fed into rail wagons and transported to the Kirkenes processing facility approximately 8km away. The train generally consisted of 22 wagons, each with a nominal capacity of 60 tonnes, providing approximately 1,320 tonnes per cycle. The topography provided a slightly downhill profile from the mine to the plant which assisted the diesel locomotive.

The rail wagons had a bottom dump arrangement which was activated by hydraulic rams to fill the 6,500t feed bins at the secondary and tertiary crushing plant.

9.3.1.3 Secondary & Tertiary Crushing

There were two open circuit crushing lines, each consisting of a single Symons 7ft standard head secondary crusher, followed by a Symons 50x90” single deck screen with 15mm aperture cloths and two Symons 7ft short head tertiary crushers. The undersize from the two Symons screens bypassed the tertiary crushers and fed directly to the discharge conveyor along with the tertiary crushed material, from where it was conveyed either directly to the mill feed storage bins (~4,000t capacity) or to a surge hopper.

The secondary and tertiary crusher arrangement had been sculpted into the side of the existing landscape with several of the conveyors situated within underground drives.

There was a fully functional workshop area adjacent to the crushing facility where maintenance was carried out on the crushers. A spare secondary and tertiary crusher was used to replace the crusher requiring maintenance, limiting downtime required to exchange out an entire crusher, which was historically around four hours.

9.3.1.4 Concentrator

A 4,000t feed bin provided ore to a series of belt feeders and conveyors (with weightometers) that allowed for the controlled delivery of crushed material to each of the primary mills. Various primary milling configurations existed throughout the history of Sydvaranger. The most recent primary milling installation was a 6.5m diameter by 9.65m long ball mill powered by a 8.1MW wrap around motor. This and other primary mills reduced the ore to a nominal target P_{80} grind size of 120µm. The primary mill discharge was directed to magnetic separators and then to the secondary mills, which operated in closed circuit using hydro-cyclone clusters for classification.

The cyclone overflow from the secondary mills was directed to magnetic separators, with the concentrate directed to one of two thickeners prior to vacuum filtration, whilst the cyclone underflow was redirected to the secondary mill feed for further grinding.

The vacuum filtration units targeted a moisture content of approximately 9% for concentrate feed to the pellet plant, whilst the non-magnetic fractions from both the primary and secondary magnetic separation stages were directed to the tailings discharge pipe (at ~9%w/w solids) where it was further diluted with seawater (to ~3%w/w solids) and discharged some 275m offshore into the fjord.

9.3.2 Metallurgy

Historically, the Sydvaranger processing facility has consistently produced high grade, low impurity iron concentrate. The facility has successfully produced acid pellet feed using conventional technology over an extended period of time, as well as direct reduction ('DR') pellet feed and super high grade products in more recent times via the implementation of additional processing technologies (flotation, etc). There has been little need for ongoing metallurgical testwork on the various ore sources, with the exception of a few recent studies aimed at either optimising niche products (super high grade) or assessing alternative comminution options.

For these reasons, a lack of recent metallurgical testwork is not considered to be a material issue and, as such, the design criteria, flow sheet, capital and operating cost estimates can be based on real production data, biased towards the period preceding the most recent closure of the mine.

9.3.2.1 Mineralogy

The most important mineralogical property affecting magnetite deposits relates to the liberation size at which impurities can be rejected and the magnetite can be recovered. The optimum grind sizes for the primary and secondary grinding stages are well established from historic production and, based on the current geological interpretation of the ore sources proposed to be mined, the target grind sizes would remain unchanged.

9.3.2.2 Comminution

Conventional comminution parameters, such as unconfined compressive strength ('UCS'), Bond work index ('W_i'), abrasion index ('Ai'), etc, have not been tested in recent times. However, the W_i of the various ore sources is well established from past testwork and operating data. The average W_i is approximately 12kWh/t for all ore sources with the exception of Fisketind Ost, which has a W_i of approximately 15kWh/t. A conservative average W_i of 13.5kWh/t has been applied for design calculations.

9.3.2.3 Concentrate Grade, Recovery & Impurities

The Sydvaranger plant produced various iron concentrates and pellet feeds throughout its history. The operation had a well established and well equipped laboratory facility that was capable of analysing representative samples collected from the processing plant for all of the necessary properties relating to concentrate grade, recovery and impurity levels. Inspection of historic records indicates that the quality control procedures were adequate and the correlation between the results of Sydvaranger (supplier), and British Steel and Hoganas (customers) was acceptable.

For the period from 1984 to 1995, the concentrator achieved an average iron grade of 67.8% at a magnetite recovery of 96.5%, and with a silica grade of less than 5%. In addition, an average of 10.8% of the non-magnetic iron was also recovered. With additional downstream processing, silica levels could be reduced to around 2% for DR pellet feed and approximately 0.22% for super high grade. The following figures illustrate the typical relationships between iron grade, recovery and silica levels.

Figure 9.3.2.3_1 shows the typical iron recovery versus iron feed grade for the various concentrate products outlined above.

Figure 9.3.2.3_1
Recovery vs. Feed Grade

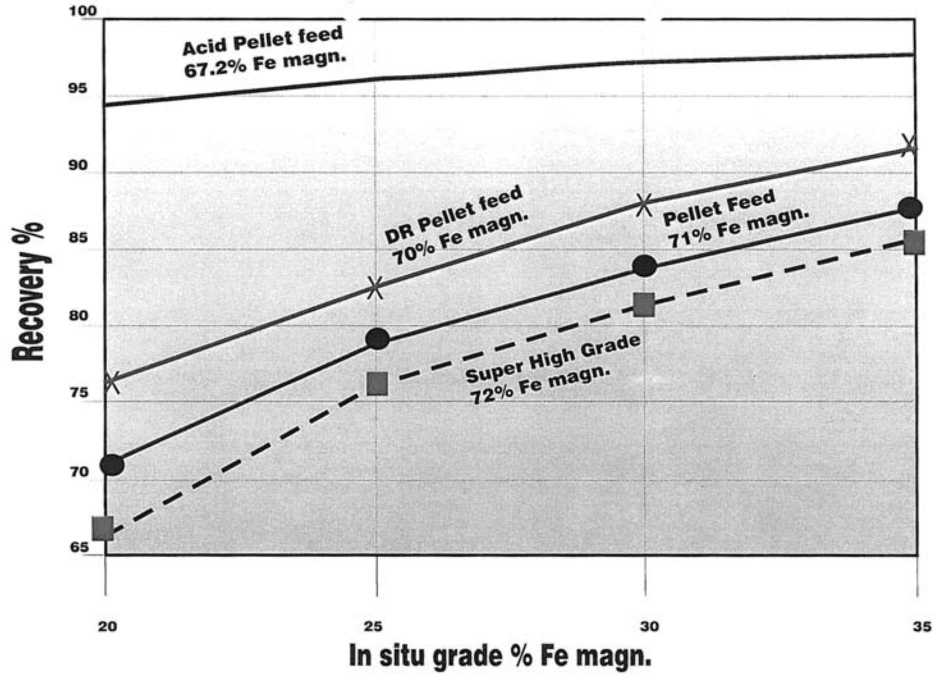


Figure 9.3.2.3_2 shows the typical silica grades in the concentrate for the different products versus the loss of magnetite in the tailings.

Figure 9.3.2.3_2
SiO_2 in Concentrate vs. Tailings Grade

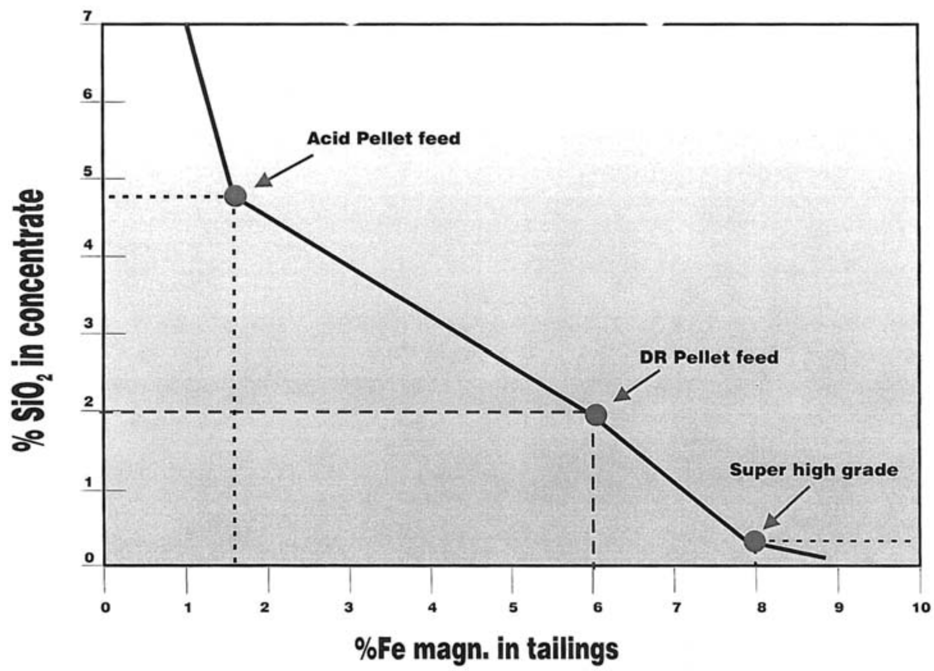


Figure 9.3.2.3_3 shows the relationship between silica content and iron grade for typical concentrate ranges.

Figure 9.3.2.3_3
SiO_2 in Concentrate vs. Concentrate Fe Grade

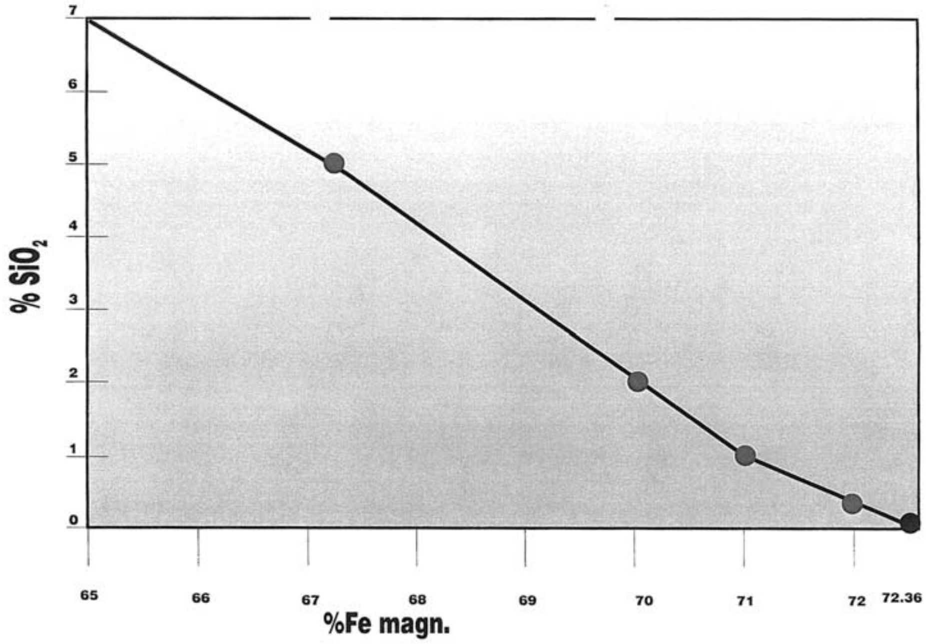


Table 9.3.2.3_1 shows a typical analysis of iron grade and impurity levels in the acid pellet feed of the Sydvaranger concentrate

Table 9.3.2.3_1
Sydvaranger Iron Project
Typical Sydvaranger Concentrate Analysis

%Fe (total)	**68.0%**	Pb	10ppm
%Fe(mag)	93.9%	As	0.5ppm
SiO2	**4.80%**	Sb	1.0ppm
Mno	0.10%	Hg	0.5ppm
Al2O3	**0.20%**	Cd	1.0ppm
TiO2	**0.03%**	Ni	10ppm
CaO	0.40%	Cu	10ppm
MgO	0.40%	Zn	10ppm
Na2O	0.06%	Co	5ppm
K2O	0.02%	V	100ppm
P	**0.008%**	Cr	40ppm
S	**0.02%**		
Cl	0.05%		

9.3.2.4 Historical Reconciliation

The Sydvaranger Mine produced annual budgets, incorporating forecast ore tonnage to be mined and the yield, the latter being the number of ore tonnes required to produce one tonne of concentrate. The yield is therefore the inverse of the recovered grade.

As can be seen from Table 9.3.2.4_1, the average yield variance from budget for the last 10 years of full operation was 3.97%, with a range of -4.11% to +4.52%. The ore tonnes mined produced an even smaller variance of 2.44% over the same period. The low variance relative to budget indicates that the operators had a detailed understanding of the deposits being mined (predominately Bjørnevatn), which is not surprising given the history of mining dating back to 1910.

RSG Global is of the opinion that the historic performance of the mine provides a high level of comfort with respect to the future plans for mining and processing by NIL.

9.3.3 Proposed Processing Operations

NIL proposes to process iron ore feed from various ore sources at approximately 7Mtpa to produce approximately 3Mtpa of concentrate at an iron grade of ~67.5%. The proposed process flow sheet is similar to that employed historically, with minor modifications in some areas aimed at improving both the plant throughput and product specifications.

Table 9.3.2.4_1
Sydvaranger Iron Project
Actual vs. Budget 1986 to 1995

Year	Budgeted Ore Mined (Mt)	Actual Ore Mined (Mt)	Budgeted Yield (t ore/ t conc)	Budgeted Concentrate (Mt)	Actual Mill Feed	Actual Concentrate (Mt)	Actual Yield (t ore/ t conc)	Delta Actual Milled to Budget	Delta Actual Yield to Budget
1986	4.21	4.41	2.53	1.74	4.39	1.81	2.43	-0.52%	-4.11%
1987	3.20	3.39	2.37	1.43	3.39	1.45	2.34	-0.06%	-1.22%
1988	3.28	3.05	2.26	1.35	3.03	1.38	2.20	-0.46%	-2.79%
1989	3.15	3.06	2.39	1.28	3.07	1.28	2.39	0.23%	-0.04%
1990	3.32	3.33	2.37	1.41	3.29	1.27	2.59	-1.23%	3.54%
1991	3.43	3.60	2.32	1.55	3.48	1.38	2.53	-3.28%	1.77%
1992	3.35	3.55	2.30	1.54	3.58	1.44	2.50	0.84%	2.87%
1993	3.14	3.66	2.30	1.59	3.61	1.50	2.41	-1.12%	-2.13%
1994	3.80	3.55	2.26	1.57	3.71	1.57	2.37	4.59%	-2.83%
1995	3.40	3.52	2.19	1.61	3.55	1.41	2.52	0.94%	4.52%
Total	34.27	35.11	2.33	15.07	35.11	14.47	2.43	2.44%	3.97%

9.3.3.1 Process Description

It is proposed that the existing primary gyratory crushers would continue to operate in a duty/standby mode and receive ROM ore from the mine haul trucks or nearby ROM pad via Front End Loader ('FEL'). The minus 1,200mm primary ore feed would be reduced to a nominal P_{80} of 150mm and feed into the primary crusher discharge bins. The existing belt feeders and conveyors would deliver the crushed ore to the cobbing plant, where a non-magnetic fraction would be rejected to the waste stockpile and the magnetic fraction would feed into the rail feed bins.

The rail wagons would be loaded using the current feed arrangement and a locomotive would haul the material to the existing secondary crushing feed bins. The proposed secondary and tertiary crushing configuration would only require one line of crushers (as compared to the two lines applied historically) and hence the rail wagons would deliver the ore to the first half of the feed bins. The primary crushed material would then be fed via the existing belt feeder and conveyor arrangement to a secondary crusher, the discharge of which would feed onto a scalping screen that would allow fine material to bypass the tertiary crushing stage and screen oversize to feed into the two tertiary crushers arranged in open circuit.

The crushed product with a nominal P_{80} of 12mm would travel to the mill feed bin via the existing conveyor arrangement from where it would feed into a number of primary mills operating in closed circuit with either hydro-cyclone or screen classification. Approximately 9MW of grinding power is required to reduce the material to a P_{80} grind size of 200µm, assuming a Bond work index of 13.5kWh/t and a throughput requirement of 7Mtpa. It should be noted that the applied Bond work index of 13.5kWh/t is considered conservative, as the majority of ore sources treated historically had a Bond work index of ~12kWh/t, with just one ore source (Fisketind Øst) displaying a Bond work index of ~15kwh/t. The use of screens, as opposed to hydrocyclones, would be expected to increase the grinding efficiency of the magnetite, which is prone to over-grinding when classified using centrifugal devices due to its higher than average specific gravity.

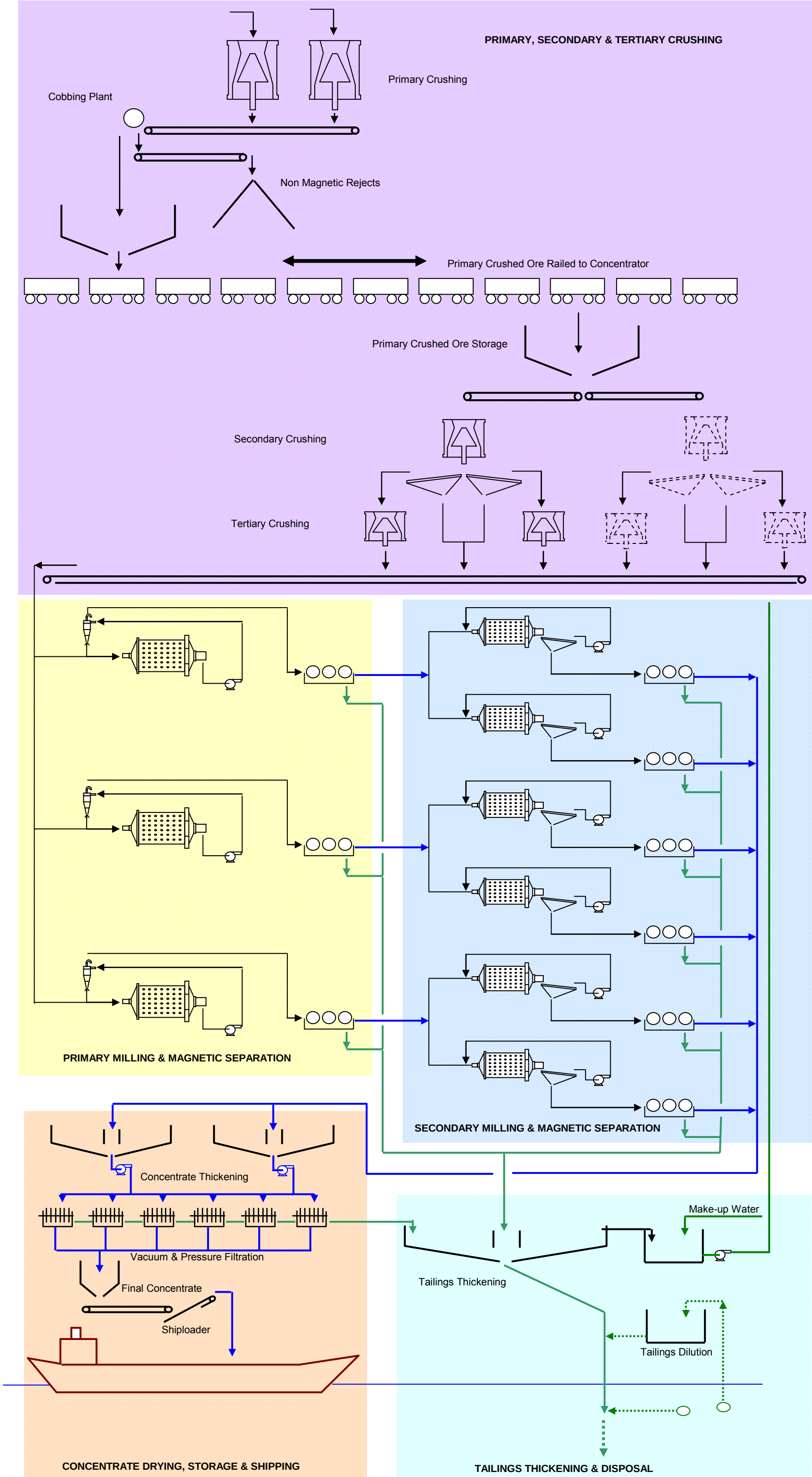
The primary mill discharge would pass through magnetic separation devices, with the non-magnetic fraction (~30%) reporting to the tailings thickener stream and the magnetic fraction pumped to the secondary milling circuit. Approximately 9MW of grinding power is required to reduce the secondary mill feed to a P_{80} grind size of 45µm in closed circuit with screen classification. The secondary mill discharge would pass through magnetic separation devices, with the non-magnetic fraction (~30%) reporting to the tailings thickener stream and the magnetic fraction pumped to the concentrate thickeners.

The tailings thickener would produce thickened slurry, which would flow via gravity to the discharge tailings pipeline. Prior to discharge, the thickened slurry would be diluted to account for temperature and salinity differentials through either a dilution tank located on the shoreline of the fjord or a venturi arrangement in the pipeline beneath the surface level of the sea.

The thickened iron concentrate would be pumped to existing filtration units, which would reduce the moisture content to a suitable level for storage and shipping. The use of pressure filtration in conjunction with the vacuum filtration units may be implemented to improve the control of moisture level in the concentrate product. The final concentrate would be conveyed to existing storage bins prior to sampling and ship loading at the adjacent Kirkenes port facility. The flow sheet for the proposed 7Mtpa operation is shown in Figure 9.3.3.1_1.

Figure 9.3.3.1_1
Proposed Flow Sheet for Northern Iron Concentrate Production

Northern Iron Flowsheet



9.3.3.2 Refurbishment & Recommissioning

The major equipment required to recommission the Sydvaranger processing facility at 7Mtpa is as follows:-

- Secondary crusher (1x) and tertiary crushers (2x)
- Primary milling capacity of approximately 9MW
- Secondary milling capacity of approximately 3MW
- Tailings thickener
- Filtration unit/s

It is likely that the purchase and delivery of the major equipment outlined above will represent critical path items in the recommissioning schedule. The Sydvaranger facility has the advantage that the sizing of the individual mills is flexible, with smaller equipment being more readily available. This approach will have a slightly negative impact on the operating costs and complexity of operation, however, the ability to commence production more quickly should outweigh the small cost disadvantage.

There is a need to refurbish or replace a considerable amount of conveying and pumping equipment, as well as corroded piping, within the facility. This is not expected to impact on the recommissioning schedule. There may also be a need to refurbish or replace a considerable amount of electrical supply equipment. Many of the major cables remain in an acceptable condition and have continued to be used to supply power to major equipment during the care and maintenance period. In those cases where the switchboards are inadequate for newly installed equipment, the delivery times are not expected to impact on the recommissioning schedule.

A SCADA control system was in use at the time of closure of the processing facility. It is likely that the operability of the plant would be improved with an increased level of instrumentation in order to minimise the operating personnel requirements.

9.3.3.3 Process Capital Costs

The capital cost estimate to recommission the Sydvaranger crushing and beneficiation plant is US$72.2 million. This is made up of direct costs of US$47.9 million to replace or refurbish the necessary plant and equipment, and US$24.3 million of indirect costs. The estimate is considered appropriate for this scale of operation and conservatively accounts for the detail of work required to recommission a plant that has been idle for 10 years in a care and maintenance mode.

Capital has been allocated for two lines of secondary and tertiary crushing, whilst only one line is required, however the allocation for milling has allowed for equipment of slightly lower power than may be required. Estimates have also been included for the negotiation and repurchase of existing primary crushing equipment, which has now been successfully completed, increasing confidence levels in these areas.

The detail within the individual areas of the capital cost estimate may vary somewhat as the engineering and refurbishment phases commence, however the overall estimate is considered adequate to complete a facility capable of the proposed plant throughput rates.

The processing capital cost that will be attributable to NIL has been estimated at US$72.2 million as shown in Table 9.3.3.3_1 below.

Table 9.3.3.3_1
Sydvaranger Iron Project
Summary Processing Capital Cost

Item	**Cost [US$M]**
Direct Costs	
Primary Crusher	2.0
Cobbing Plant	0.6
Secondary/Tertiary Crusher Plant	6.9
Concentrator Plant	37.1
Railway	1.3
Subtotal Direct Costs	**47.9**
Indirect Costs	
EPCM	8.4
Contingency	11.2
First Fill	2.5
Owners Team	1.5
Project Insurances	0.7
Subtotal Indirect Costs	**24.3**
Total Process Plant Capital	**72.2**

9.3.3.4 Process Operating Costs

The process operating costs of US$6.22 per tonne of ore feed (inclusive of general and administrative costs and railway costs) are based on engineering calculations at the proposed throughputs, correlated with historic production data and current market costs. The operating costs are considered to be accurate and conservative, based on their derivation and the contingency of 10% that has been applied to the overall operating cost.

The estimated unit rate for the power cost is 0.35NOK/kWhr, or approximately US$0.06/kWhr.

Improvements in operating costs at the Sydvaranger plant would be most easily achieved via the installation of a lesser number of larger production units (e.g. mills), however the operating cost estimate has assumed the worst case, which is a greater number of smaller production units.

The organisational structure proposed for the processing plant is considered appropriate for the scale and nature of the operation.

The fixed cost component of the operating costs is estimated at around 60%, and hence significant unit operating cost savings can be achieved at higher throughput rates.

Table 9.3.3.4_1
Sydvaranger Iron Project
Summary Processing Operating Costs

Item	**Cost [US$/t Mill Feed]**
Power	1.61
Crusher liners	0.17
Mill Liners	0.13
Mill Balls	1.63
Screens	0.08
Flocculants	0.08
Water Supply	0.20
Labour Cost/t milled	0.72
Other	0.08
Contingency (10%)	0.47
Subtotal	**5.17**
Railway	0.71
G&A	0.34
Total	**6.22**

9.3.3.5 Recommissioning Schedule

NIL proposes to recommission the processing facility in June quarter 2009. This date is considered achievable in the current climate, primarily because of the infrastructure that exists at the facility. There are a number of long-lead items that need to be purchased, including crushers, mills and a thickener. The grinding mills are the most likely to be problematic, however the Sydvaranger Iron Project has the distinct advantage that a greater number of smaller mills can be installed, which have considerably shorter lead times. No orders have been placed at the time of this report. NIL is currently assessing the mill alternatives available and the associated delivery times.

A summary of the recommissioning schedule is shown in Table 9.3.3.5_1.

Table 9.3.3.5_1
Sydvaranger Iron Project
Summary Recommissioning Schedule

Item	**Dec Qtr 2007**	**Mar Qtr 2008**	**Jun Qtr 2008**	**Sep Qtr 2008**	**Dec Qtr 2008**	**Mar Qtr 2009**	**Jun Qtr 2009**
Upgrade category of JORC resources	■	■					
Reserve estimate	■	■					
Mine planning	■	■					
Mine fleet selection/order	■	■					
Pre strip Bjørnevatn						■	■
Ore mining						■	■
Tender long lead Items	■	■					
Order long lead items	■	■					
Refurbishment works	■	■	■	■	■		
Delivery and installation of long lead Items			■	■	■	■	
Approvals and permitting	■	■	■				
Commissioning / concentrate production							■

The size of the thickener required should be in the range of 35m diameter, the delivery and installation of which should be achievable within the required timeframe.

NIL is either carrying out or about to commence the following work as part of the '7Mtpa Recommissioning Study' in order to complete the recommissioning of the Sydvaranger Iron Project:-

- Detailed Mine Planning Study:-
  - review geotechnical inputs to determine if steeper slopes can be utilised.
  - incorporate site geological, grade and survey data and NIL drill results into resource models to upgrade to Measured and Indicated Category where possible.
  - determine optimal mine schedule.
  - tender mine fleet requirements, select preferred equipment supplier and negotiate supply, lease and Maintenance and Repairs Contracts ('MARC').
  - tender consumable requirements, select preferred suppliers and negotiate contracts.
- Plant Refurbishment Study:-
  - review the cost and availability of appropriate crushing and milling equipment allowing for flexibility in the sizing of the respective machinery.
  - determine the preferred crusher and mill selection with respect to operating/capital cost and delivery time using cost benefit analysis.
  - complete detailed design and engineering for plant refurbishment.
  - prepare tenders for long lead items such as crushers, mills and thickeners.
  - decide on style of construction contract - Lump Sum or Engineering, Procurement, Construction and Management ('EPCM').
  - procure long lead items.
  - tender consumable and utility requirements, select preferred suppliers and negotiate contracts.

NIL is also proposing to carry out feasibility studies into the potential to increase ore production to 15Mtpa (the Expansion Scenario Feasibility Study) and to build a pellet plant on site (the Pellet Plant Feasibility Study).

RSG Global also considers that the Sydvaranger plant may commence production at an earlier date than planned, but at a reduced throughput, given that the infrastructure supporting the major equipment is already in place.

9.4 Infrastructure

The Project is well serviced by existing infrastructure, with most of the required items remaining in place to operate the mine and concentrator.

9.4.1 Power

Power was formerly supplied from hydro-electric stations owned by Sydvaranger AS and located on the Pasvik River. These have subsequently been sold to the local power utility (Varanger Kraft), however power is still available from this source. In addition, Norway operates a deregulated energy market and NIL will have the option of buying power on the open market.

The infrastructure required for power reticulation to both the mine and concentrator is still in place and is well maintained. Power is still being supplied to both areas through this infrastructure.

The mine has a 132kV supply, with a three-ring supply feed. This is transformed to 22kV and 3.3kV at the central substation near the concentrator in Kirkenes. Installed capacity was in the region of 65MW.

A 20MVA substation is located near the concentrator and will be sufficient for the planned 7Mtpa throughput with minor upgrades. A significant component of the switching gear is obsolete and requires replacement.

9.4.2 Water

Process water for the previous operation was sourced from four freshwater lakes located near the concentrator, and the sea, with the latter representing by far the largest source. The seawater was thought to provide additional strength to the iron pellets, which was seen as an advantage at the time. The disadvantage of using saline process water is the requirement to use stainless steel piping due to its corrosive nature and the formation of dioxins in the pellet plant. In addition, no thickening of the tails was carried out, resulting in large volumes of raw water being pumped from the sea to the plant (circa 6,500m^3/hr). NIL plans to install a tailings thickener to recover as much process water as possible. This will enable the use of freshwater from the nearby lakes.

The pump station is located less than 500m from the concentrator and the intake pipes are still in place. The pump house building has been sold, but prior to sale the pumps were all removed and placed in care and maintenance. A new pump station facility will be constructed adjacent to the old pump station and the intake pipe relocated.

The preliminary water balance indicates that, at a 7Mtpa throughput, the maximum raw water demand will be in the order of 650m^3/hr, which is within the prescribed limits for extraction from the four freshwater lakes under normal conditions. Additional fresh process water is available, if required for future expansion, from the Municipal water supply pipeline, albeit at an additional cost.

If significant additional freshwater is required for processing, the water currently planned to be pumped from the mine into the dewatering tunnel (and thence to Lanfjorden) could be pumped via a new pipeline to the concentrator.

9.4.3 Railway and Rolling Stock

The mine owns a sole-use railway line that runs the 8km from the cobbing plant at the mine to the concentrator in Kirkenes. The line is in reasonable condition and, apart from a small part of the track under the cobbing plant, appears to be serviceable. Prior to shutdown of the mine, the management had planned to replace the remaining wooden sleepers (approximately 3,000) with concrete sleepers. The concrete sleepers are on site and NIL plans to complete this work prior to restarting the operations to ensure minimal downtime.

SVG also owns one diesel locomotive and 22 x 60t bottom dump rail wagons. These were used to haul the ore from the cobbing plant silos to the concentrator. The locomotive has been on care and maintenance since closure, and is in running condition. The wagons are structurally sound, but will require refurbishment of the air release mechanisms, brakes and minor body repair work.

9.4.4 Concentrate Storage, Handling and Shipping

The concentrate and pellet storage facilities, port and ship loader are still in place in Kirkenes. These facilities have been retained by Tschudi and are not part of the assets owned by NIL. NIL and Tschudi have entered into various agreements covering the use of these facilities to ensure that the mine can export its product on a ‘cost plus’ basis.

The storage and handling facilities consist of the following (Figure 9.4.4_1):-

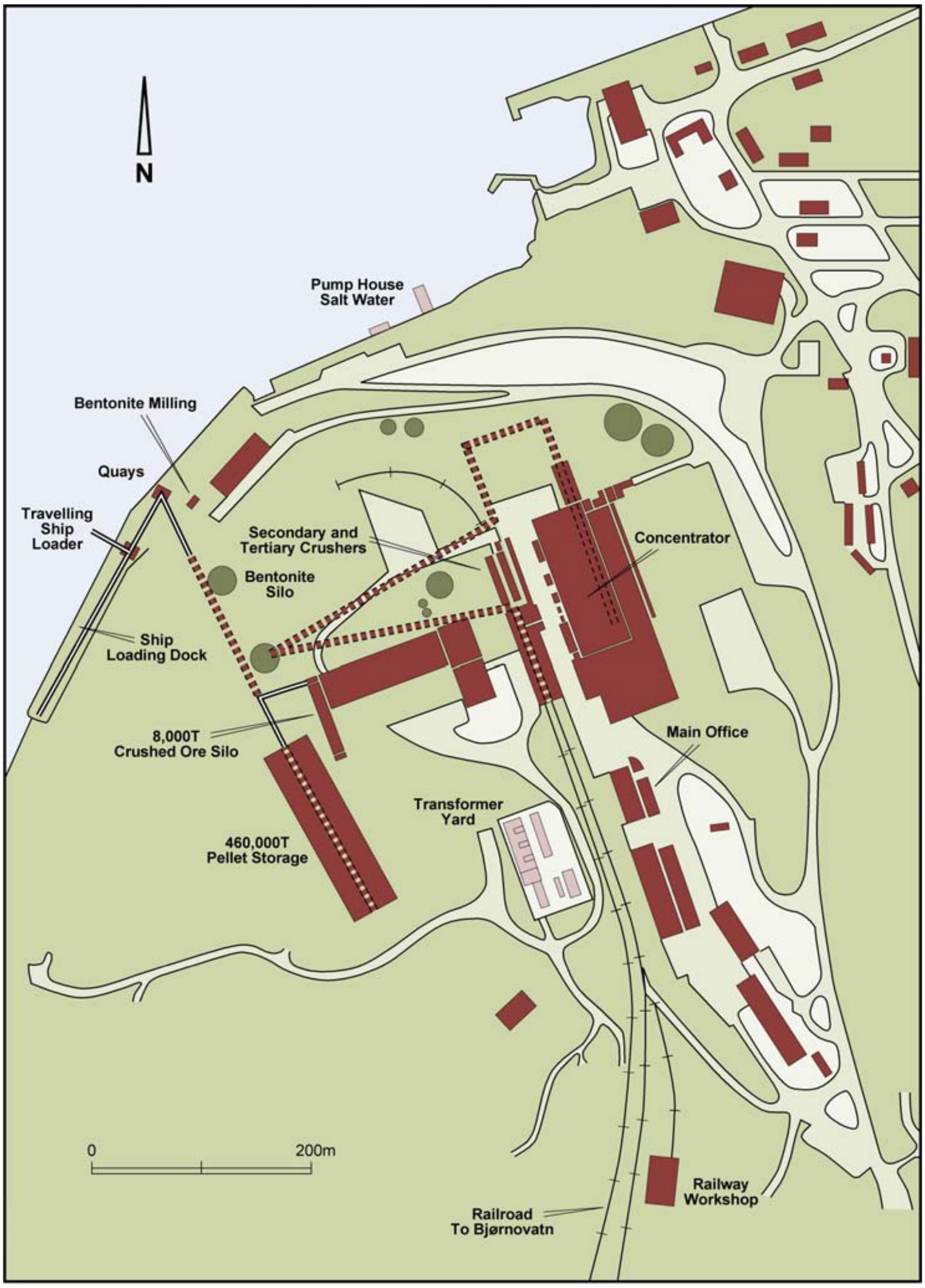
- 4 x 27,000m^3 concentrate silos
- One 15,000m^3 concentrate silo
- A number of smaller (5,000 m^3 to 10,000m^3) concentrate silos)
- A 200,000m^3 pellet silo
- Various conveyors linking the silos to each other and the port
- A ship loader rated at 4,000tph

The silos have been excavated from the mountain above the port and represent a significant investment.

The conveyors linking the facilities are in reasonable condition and many are still functioning, requiring only minimal upgrading prior to use. All conveyors are located in tunnels excavated from the mountain.

Tschudi will be responsible for the capital works required to upgrade and maintain the facilities, the cost of which will be recovered from NIL over a 7 year period. NIL is guaranteed the use of 3 x 27,000m^3 concentrate silos, equating to approximately 180,000 tonnes of storage capacity.

Figure 9.4.4_1
Facilities in Kirkenes



NIL plans to ship concentrate in shipments of between 40,000wmt and 100,000wmt, depending on the requirements of the purchaser. The guaranteed storage volume will ensure that NIL will always have sufficient storage capacity for two full shipments on average.

The port has a draught of 12.9m and can accommodate Cape sized vessels (120,000 to 140,000 tonnes capacity). The port is ice free all year round.

Concentrate will be conveyed from the concentrator to one of the three concentrate silos, where it will be stored until a sufficient tonnage has been built up for a shipment. Based on an average of 3Mtpa of concentrate production and a 60,000wmt shipment, a shipment will be required once a week. Historic ship loading rates have been in the order of 3,000wmt/hr to 4,000wmt/hr, indicating that a ship of this size can be loaded within a 24 hour period.

The ability to ship in smaller lots is attractive to both NIL and European purchasers, as it reduces working capital requirements. The differential in freight rates between the larger and medium sized vessels is not substantial for shipping within Europe. Iron and iron concentrates are typically sold on an FOB basis.

9.4.5 Haul Roads

The haul roads, both within the pits and along the strike length of the known mineralisation, have been well maintained and are typically significantly wider than would normally be expected. Many of the haul roads are in excess of 40m wide and have gradients of less than 1:12.

A small extension (approximately 500m) to the haul road will be required from the Jerntoppen pit to the Kjellmannsåsen pit.

The excellent condition of the roads will have a positive impact on the capital costs required to recommence mining operations.

9.4.6 Offices and Workshops

The mine formerly employed up to 1,400 people and owned sufficient offices to accommodate these people.

The planned NIL workforce is significantly smaller than was previously the case, and all can be adequately accommodated in a smaller number of offices. The concentrator building contains sufficient offices for the process plant staff and control room. The secondary and tertiary crusher control room will be relocated to the main concentrator control room to ensure all process operations are controlled from one central facility.

The administration staff will be housed in the old laboratory building at the entrance to the concentrator. These offices have recently been refurbished and are fit for use.

The mine offices will be re-established in the old mine office at Bjørnevatn. The existing mine workshop will be refitted for use and the overhead gantry crane will be refurbished.

9.4.7 Laboratory

The existing laboratory will be relocated to the concentrator building to ensure all facilities are in the one place. NIL has purchased all of the laboratory equipment and minimal additional equipment is required to refit the laboratory.

All offices are wired for broadband internet access.

9.5 Environmental Considerations

9.5.1 Project Environmental Aspects and Impacts

The main activities with potential emissions or impacts to land, air and water (lakes and marine) include:-

- Open pit mining at three pits.
- Primary crushing at the Bjørnevatn site.
- Rail transport of the crushed ore 8km to Kirkenes.
- Concentration of the magnetite using comminution and magnetic separation.
- Storage and shipping of concentrate from a dock at Langfjorden.
- Disposal of tailings.
- Management of wastes and waste rock.

The above activities have the potential to cause impacts associated with waste rock and tailings disposal, abstraction and discharge of process water, plant and dust emissions, noise and health effects.

9.5.2 Environmental Issues

Environmental issues generally fall into the category of contamination from past mining and processing, which are the responsibility of Sydvaranger AS and the likely requirements for future activities, which are the responsibility of NIL.

The current environmental bond is approximately $425,000.

Environmental reviews were carried out Behre Dolbear (1999), Dames & Moore (1998), NOTEBY, and Multiconsult (2007). High risk issues included past dioxin emissions from the pellet plant and the potential impacts of past and future tailings disposal.

RSG Global's findings are described below, together with its professional opinions on any issues and recommendations that may be relevant to the proposed recommencement of operations.

9.5.2.1 Previous Dioxin Emissions

The Dames & Moore audit reviewed a number of emissions reports compiled by the Norwegian Institute of Air Quality between 1995 and 1997, concerning the presence of dioxin, which was an issue elevated to some prominence at the time. Mapping of the measurements of dioxins in soils, lake and marine sediments identified the pellet plant as the source of the dioxin. The surface sediments of the lake in closest proximity to the plant were classified as strongly contaminated and the lake fish had slightly elevated dioxin levels. Investigations on human health indicated that the dioxin emissions from the pellet plant had not increased the intake level of residents of Kirkenes relative to the Norwegian people as a whole.

Dioxins were formed in the process of heating the pellets to 100-300^{o}C, spread through the off-gas system, and were deposited in the culverts and rock tunnels between the plant and the chimney and in the chimney and the concrete linings in this system. Subsequently, dioxin remediation was undertaken (Multiconsult, 2007) according to the following remediation criteria:-

- Acceptable concentrations on site, future land use industry and/or recreation:- 0.1 µg/kg I-TE
- Ordinary waste to landfill at Bjørnevatn:- >0.1 – 10 µg/kg I-TE
- Hazardous waste to hazardous waste facility:- >10 µg/kg I-TE

While there are no equivalent standards in Australia, these levels are consistent with or more conservative than those in other European countries such as Germany (EPHC, 2005).

The NIL development plan does not currently include a pellet plant. In the event that NIL decides to construct a pellet plant, the use of fresh water (as opposed to sea water) for process water should ensure that further dioxin issues do not occur.

9.5.2.2 Previous Tailings Disposal

Tailings were historically discharged to Langfjorden via two disposal sites at Slambanken and Beddari, adjacent to Toppenfjellet. These discharge sites were abandoned in 1974 when the fjord reached capacity, by which time the surface of the tailings had reached 5m above mean sea level. An alternative tailings pipeline was constructed in 1973 that discharged tailings into Bjøkfjorden via a 275m line, with its exit point at a depth of 20m below the surface. This pipeline discharged tailings at an average rate of 1.8Mtpa between 1984 and 1995.

The sites of tailing discharge into Langfjorden were still being used for the disposal of fines from the comminution and beneficiation circuits until the end of operations in 1997.

During 1989 and 1990, investigations of the extent of tailings dispersal in the fjord system outside Kirkenes indicated moderate disturbances to bottom fauna up to 7km from Kirkenes, detectable disturbances up to 13km away, and the possibility of some disturbance to Varangerfjorden.

The main impact of the tailings discharge to the fjord was smothering of benthic fauna, with recolonisation evident in the impacted areas. This is consistent with other operations that discharge mine tailings into fjords (Ellis, 2000; Poling et al., 2002). A fish breeding area was reported to exist in Varangerfjord, but no information about its importance or the views of the fishing stakeholders was available. An investigation in a reduction of the volume of tailings discharged in order to avoid the impact on fish breeding areas is warranted, including the consideration of alternative tailings disposal options.

A recent report from the Norwegian Institute for Water Research (2007) has shown recovery of benthic organisms and colonisation of the tailings sediments by populations of king crabs. There has also been some redistribution of the fines further out into the fjord, although it is not clear if this is in the vicinity of the fish breeding area in Varangerfjord.

9.5.2.3 Future Tailings Disposal

A permit to continue submarine disposal of tailings from the concentrator was approved in 1999; however, this has since expired.

It is RSG Global's view that the proposal to recommence submarine discharge of tailings on resumption of the operation would need to determine the likely fate of the tailings and its effect on fish breeding areas identified in Varangerfjord.

NIL has proposed that a new pipeline would replace the abraded one as part of the Development Plan. In the event that a permit to recommence submarine disposal of tailings is declined an alternative tailings disposal method would be to pump the tailings to the mine site and deposit them in several of the abandoned open pits. This disposal method would also require approval from the relevant authorities but would involve a longer approval process which would likely delay the recommissioning of production.

9.5.2.4 Other Previous Contamination

Open Pits

The mine comprises two large pits (East and West Bjørnevatn) and several other now abandoned voids to the south. The main environmental issues from the open pit areas are related to the extensive overburden disposal and the visual intrusion of the waste dumps. While the large size of the boulders limits the opportunities for revegetation, it does not present any significant risks of dust and, given the geochemistry of the material, reactivity and leaching of heavy metals is unlikely to be a problem. The need for any future management of the waste dumps may depend on local opposition from visual or safety perspectives. No such opposition was reported at the time of the Dames & Moore audit in 1998, however these aspects may present a risk and require fencing if areas are unsafe.

The pits themselves are large and would be difficult to backfill. Management of rainfall and groundwater accumulating into the pits has required the construction of barriers and diversion channels and some pumping, ultimately discharging via a dewatering tunnel to Langfjorden.

Multiconsult AS (formerly NOTEBY AS) provided a report in September 2007 indicating that it is unlikely that NIL would have any significant forward environmental commitments in respect to the open pits. Table 9.5.2.4_1 shows an extract from the Multiconsult (2007) report.

Table 9.5.2.4_1

Extract from Multiconsult (2007) Report on Open Pit Environmental Status

Locality	Issue	Basis for Evaluation, Recommendations / Status	Report Ref.
Mine drainage in general. Søstervatn lake drainage. Discharge to Langfjorden (through drainage tunnel)	The quality of seepage waters from the former mine workings, waste rock fills and waste fill sites. Any contamination may impact humans / wildlife in areas with impacted surface water and the marine environment in Langfjorden.	The bedrock and ore are low in sulphur and non-reactive to water and air. Acid mine water is not expected to be created. Neither does the rock contain any toxic metals in quantities of importance for the water quality. Free groundwater is only present in waste rock fills and in fissures in the bedrock. The groundwater at the mine site is not considered a potential drinking water resource. The mine area is mainly drained to the sea Langfjorden, via a drainage tunnel in rock, and to the freshwater recipient lake Ørnevatn. Surface water sampling was carried out in 1997, 1998, 1999 and 2003. The quality was well within the national drinking water limits and in good agreement with the reported regional water quality. **No need for any mitigative action or further general monitoring. The needs for monitoring should be reconsidered if mining is resumed.** For Søstervatn lake see further description below.	43817-1, 1997 43721-1, 1998 43721-4, 1999 115772, Memo RIG 01, 2006 (only in Norwegian)
Sandbunnvatn lake. Receives drainage from large waste rock fills.	Unsubstantiated anecdotal information or irregular dumping of mercury waste in a waste rock embankment during the mine operation.	Sampling and chemical analysis of lake water. No heavy metals including mercury were detected. **No need fur further investigations provided the subject waste rock fills are not disturbed / worked.**	43721-1, 1998
Waste oil storage and fill site for oil-contaminated soil and concrete.	Oil impacted seepage water may reach the Bjørnevatn West pit and impact the mine drainage.	Monitoring wells have not been sampled since the site was commissioned as a waste fill site. **Inspect wells and perform groundwater sampling in 2007. Reassess the need for future monitoring and supplementary wells.**	43721-3, 1999 43721-5, 2000
All known waste fill sites including Skjittippen 1 and 2, except for oil contaminated soil. Seepage water.	Contaminated seepage water drains to the Langfjorden tunnel. Any contamination may impact the marine environment and humans or wildlife ingesting surface water near the tunnel inlet.	Water from the area of all these sites seeps through the ground (waste rock fill) on the former bed rock surface until emerging as springs at the foot of the major rock fill embankments in the vicinity of the Langfjorden tunnel inlet. As requested by SFT, sampling of spring water was carried out in 2003, 2005 and 2006, and must continue annually to 2009. Further monitoring is then to be agreed with SFT. **The results so far show no indications or recent changes in the water quality or of any contamination of potential environmental effect on the recipients. Re. dioxins, the results have been "upper bound" values governed by the analytical detection limits.**	410538-1, 2007
Søstervatn pit lake, water filled former mine pit.	Contaminated sediments and possibly impacted water due to dumping of approximately 500 tons of burnt pyrite (imported) and 35,500 tons of waste iron ore concentrate into the water filled former open mine pit.	Investigations indicate the presence of approx. 35,000m^3 of loose material at the bottom of the pit lake. The fine-grained lake sediments had elevated levels of arsenic while other heavy metals concentrations were at background level. Residual dumped pyrite material found along the rim of the pit confirmed high contents of arsenic and zinc and a potential for leaching of the same metals and cadmium and copper. Iron ore concentrate did not have elevated heavy metal concentrations. The content of heavy metals in the lake water was of the same magnitude as in samples of typical drainage water within the mine area, and within the national drinking water limits. Both aquatic plants and insect larvae were observed at some locations on the lake bottom. The pit lake drains to the north by seepage through waste rock embankments. This water, mixed with infiltrated precipitation water and other drainage from a large area does eventually emerge in springs near the inlet of the Langfjorden mine drainage tunnel. This water has been tested as described at the top of this table. **No need for any mitigative action or specific monitoring of the lake water. This should be reconsidered if the drainage conditions and / or the land use of the area are changed.**	Lake investigation: 43721-6,2001 115772, Memo RIG 01, 2006 (only in Norwegian)

Underground Mining

Mine water was pumped to the surface and discharged via the mine drainage system into Langfjorden. At the time of the Dames & Moore audit, no investigations had been made into the quality of the discharged water or the behaviour of mine water recharge after closure, although NOTEBY water results show that it meets Norwegian drinking quality standards.

Waste Management and Land Contamination

The site has produced a number of wastes that have been deposited in a series of dumps at the mine site and one near Toppenfjellet at the Kirkenes site (Special Waste Deposits).

These Special Waste Deposits have been retained by Tschudi and are not being transferred to SVG or NIL. Past dumping seems to have been uncontrolled, and lists of materials present or suspected to be present include old vehicles, batteries, paint, solvents, waste oils, mercury-containing instruments, asbestos and PAHs and PCBs. Reports by the Norwegian Geological Survey (summarised by Dames & Moore, 1998) of the analyses of possible contamination found no significant levels of heavy metals, but some detection of oil content.

Reportedly all PCBs from all transformers have been removed under supervision of the Norwegian Pollution Control Authority. Asbestos from the old pellet plant was buried under government supervision in 2006. There is a potential risk if any of this material has been used as general fill around the site; however, as the dismantling and disposal of the pellet plant was carried out under government supervision into the Special Waste Deposits, the associated risk would appear to be low.

Water Management

A report by NOTEBY in November 1998 found that concentrations of all organic compounds and most metals were below detection in water samples taken from the various channels that ultimately drain to Langfjorden. Where metals were detected, the levels were so close to the detection limits that the values may not be completely reliable. Further characterisation of contaminants in soils, surface water and groundwater at selected locations would be advisable.

9.5.2.5 Previous Health Issues

Health concerns relating to past operations have been identified from:-

- Silicosis due to inhalation of quartz dust.
- Mesothelioma from exposure to asbestos.
- Industrial deafness.
- Asthma from fugitive dust emissions.
- Respiratory problems from exposure to solvents or welding fumes.
- Exposure to hazardous substances such as dioxins.

Some employee medical reports on the above listed respiratory health issues associated with the mine site and process plant have been reviewed by a reputable consultancy. In summary the following was observed.

Silicosis was an issue in the past, because of the high quartz content in the dust. However, steps taken by Sydvaranger AS to reduce exposure to dust have reduced the incidence of this disease; the last case being during the 1980s. Therefore, this is unlikely to be an issue for future operations as NIL will employ best practice health and safety procedures. Past instances of health effects due to exposure to solvents are unlikely to occur as solvents will not be used in future processing operations.

Since the replacement of asbestos insulation in the 1970's, the presence of asbestos has not been considered a concern. Other workplace improvements in hooding and ventilation systems have reduced respiratory concerns from dust, welding fumes and solvent use, and the historical incidence of respiratory diseases appear to have been resolved.

There were some findings of the elevated incidence of lung cancer, although results were confounded by similar impacts on non-mine workers attributed to radioactive fallout from nuclear testing on Novaja Zemlija in Russia.

Amongst the local residents, most concern has been over fugitive dust and dioxin emissions. Investigations did not indicate any negative health effects due to dioxins and no obvious increase in asthma levels.

Some older employees apparently suffered hearing defects from long term exposure to industrial noise. In response, improved noise abatement equipment and better use of hearing protection during the previous operations reduced this issue, and there had been little reported hearing damage among younger employees up to the closure of the previous operations.

These observations seem reasonable and it appears unlikely that any future claims against the previous owners (or NIL) will arise.

9.6 Permitting

Past regulatory requirements for the mine have been developed on an ad hoc basis. Environmental protection legislation is enacted and implemented at both national and regional levels, with the following bodies responsible for environmental pollution control, public health and planning issues:-

- Norwegian Pollution Control Authority ('SFT') – emission permits, waste disposal.
- National Norwegian Water Authorities ('NVE') – freshwater abstractions from the lakes and water laws.
- Sorvanger Municipality – planning issues.
- Directorate of Mining – mining concessions and mine safety.
- Statens Jernbanetilsyn – concession to operate the railway.

9.6.1 SFT Permit

The SFT permit will cover the disposal of all waste and emissions from site, including the submarine tailings and mine water disposal into Langfjorden. This permit was applied for by ABM in August 1998 and granted in March 1999, with a requirement to commence operations by March 2003. ABM did not commence operations within the required timeframe and the permit lapsed.

NIL has commissioned a study to examine the impact of the tailings on Bokfjorden as part of the application for a new SFT permit. The first phase of this was completed in June 2007 by the Norwegian Institute for Water Research ('NIVA'), indicating that the impact on the sea floor environment had been minimal, with the benign tailings forming a stable mass covered with typical flora and supporting fauna, similar to areas that had no tailings deposited.

A second phase of the investigation was completed by NIVA in August 2007, which found that based on a provisional Sediment Profile Imaging ('SPI') classification system the environmental conditions are considered "good" at most locations in the fjord system. In the areas influenced by the mining activities, the conditions are termed "good" or "moderate". Compared to earlier studies in the fjord system, there has been a reduction in the occurrence of tube dwelling and free living bristle worms at all locations. This coincides with little epifauna on the sea bed. The investigation concluded that this was probably due to the effects of the king crab which has invaded the fjord during the last 10 years since mining ceased. The report also concluded that the king crab has a stronger negative influence on the soft bed fauna in the fjord than what the mining waste has.

The report recommended that if disposal of mine wastes was recommenced monitoring be carried out every five years to assess the impact on the fjord.

The other main aspect covered by the SFT permit is the disposal of water from the mine area to Langfjorden via the 2.2km long dewatering tunnel. The water from the mine area is clean, with low levels of total suspended solids and a neutral pH. The ore and waste rock contains minimal sulphides, and ARD has not been an issue in the past and is not considered to be an issue for future mining operations. The current water flow down the tunnel is in the order of 30 to 40l/s. A total of 15Mm^3 of water will need to be removed from the Bjørnevatn pit over a fourteen month period, equivalent to an additional 370l/s of water flow.

Both the submarine tailings disposal and water discharge are continuations of previous discharges of benign materials that were approved by SFT and, based on initial discussions with SFT, NIL expects that these approvals will be secured for future operations.

The application for the SFT permit was submitted in mid-July 2007 and is expected to take up to the full nine months to be approved.

9.6.2 NVE Permit

The NVE permit governs the extraction of the required fresh water from the four fresh water lakes near Kirkenes. There is a valid permit held by Sydvaranger that allows up to $800m^3$/hr of water to be extracted, subject to drawing the lake levels down by no more than 1m. The application for the transfer of this permit was submitted to NVE in July 2007 and approved on 18 September 2007.

9.6.3 Sorvanger Municipality

Approval for the planned operations must be given by the local authority. This was received in late June 2007.

9.6.4 Directorate of Mining - Mine Concession

The future mining operation needs to be approved by the Directorate of Mining in the form of a Mining Concession. To secure this, the applicant must demonstrate that a viable mining operation exists and that the applicant has the ability to carry out the work. The planned pits and waste dumps are all within a designated mining area, with extensive historic mining confined to land owned by NIL.

The Mining Concession is expected to take between six and nine months to be approved.

9.6.5 Statens Jernbanetilsyn

Approval is required to operate the railway. An inspection by Statens Jernbanetilsyn was carried out in July 2007 and processing of the permit is ongoing.

10 EXPLORATION, RESOURCE AND DEVELOPMENT POTENTIAL

Development of the Sydvaranger Iron Project is initially predicated on the Bjørnevatn, Kjellmannsåsen and Fisketind Øst deposits. Although the resources are presently only at an Inferred status, studies suggest that the development is likely to be viable in the present circumstances, and that the resources may sustain the Project for up to 19 years. NIL's plan is to use the existing infrastructure to achieve concentrate production as quickly as possible and at the lowest possible cost to take advantage of the current high iron ore prices.

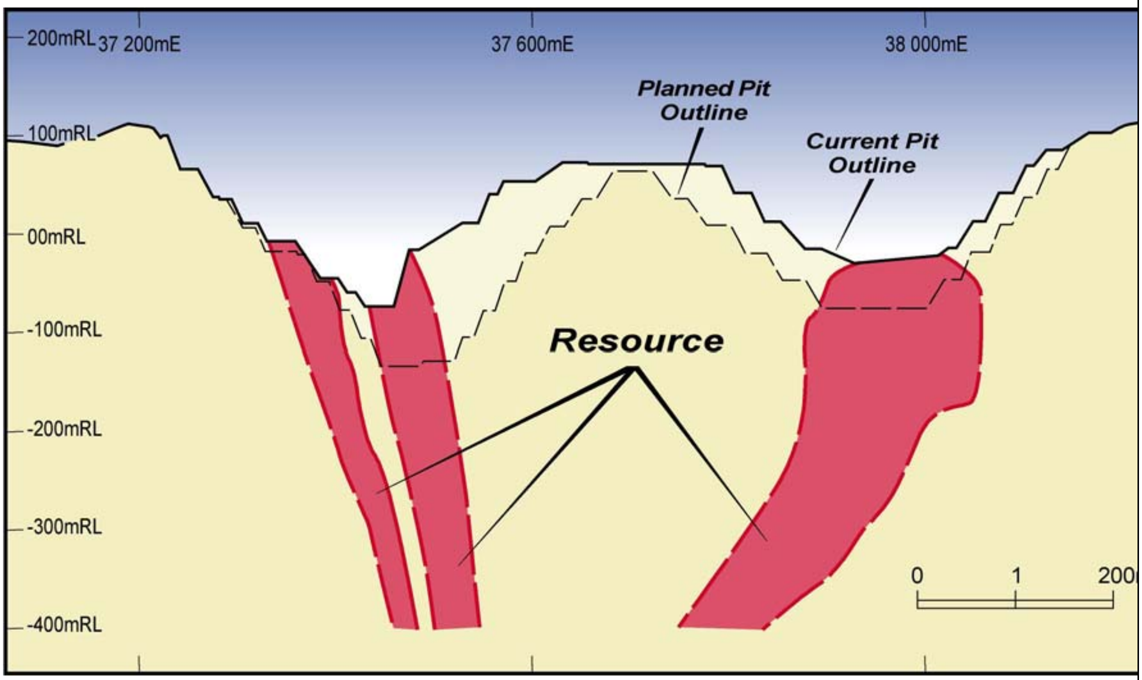
There is significant exploration potential at the Project in excess of the mineral inventory currently defined by the Development Plan. Conversion of mapping, geophysical and drilling data into a digital format, together with confirmation and infill drilling, will enable the definition of additional resources, not only near surface, but also at depth.

The following sections describe the main areas of exploration, resource and development potential.

10.1 Bjørnevatn Potential

The resource model for Bjørnevatn is currently terminated at approximately the -350m RL. The West and East zones of mineralisation are postulated to form the limbs of a syncline, the base of which is to be found at depths greater than -350m RL as shown in Figure 10.1_1.

Figure 10.1_1
Bjørnevatn Deposit - Section 184,240mN

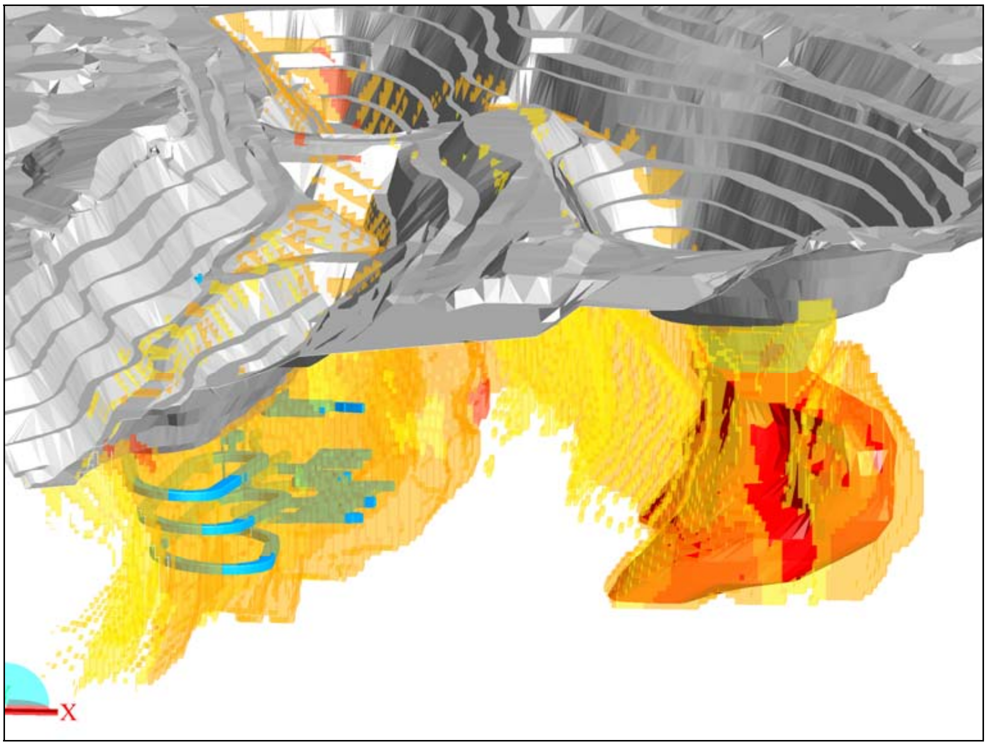


Deep drilling below the base of the current resource has confirmed the presence of iron mineralisation with results including:-

- 39m grading 36.3% $Fe_{(total)}$ from 603m in BH93
- 47m grading 35.4% $Fe_{(total)}$ from 493m and 62m grading 35.0% $Fe_{(total)}$ from 500m in BH112
- 58m grading 36.6% $Fe_{(total)}$ from 693m in BH119V

The iron mineralisation is relatively thick on the East zone and this appears to be migrating towards the West zone, supporting the syncline concept. The NIL pit design leaves a significant amount of mineralised material below the pit floor (Figure 10.1_2) and this could, subject to economic and mining factors, be recovered by underground mining.

Figure 10.1_2
Bjørnevatn Deposit and Proposed NIL Pit (Downward View to the North)



NIL intends to examine the economics of reopening the underground mine below the Bjørnevatn pit, in particular the potential to extend the workings to the east limb of the fold and to commence extraction of the mineralisation along strike of the planned East pit. The advantage of this strategy is that underground mining could be carried out well away from the base of the planned East pit with no impact on the pit itself. A level drive of approximately 400m length is required to access the base of the known mineralisation on the eastern limb, which would cost in the order of US$1.2M to develop. The workings are currently flooded, but the water can be pumped out, as the dewatering pumps and infrastructure are still on site and in good order.

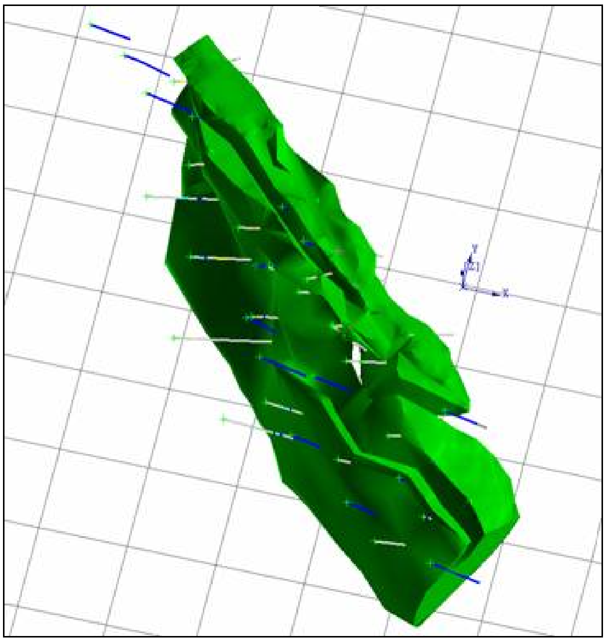
The resumption of underground mining has the potential to provide an additional ore source that will recover more ore than currently planned, and provide an alternate ore source as a risk mitigation measure.

10.2 Kjellmannsåsen Potential

The Kjellmannsåsen deposit is open in both directions along strike and down dip as shown in Figure 10.2_1. Recent drilling by NIL has extended the mineralisation in the south with the southernmost section displaying wide zones of iron mineralisation as seen in Figure 10.2_2.

Kjellmannsåsen Deposit – Recent NIL Drilling (blue) and Resource Mineralisation Model (Oblique View from Southwest).

Figure 10.2_1
Kjellmannsåsen Deposit – Resource Solid, Historical Drilling (White) and NIL Drilling (Blue)



There is excellent potential to extend the iron mineralisation at Kjellmannsåsen through further drilling and NIL plans to carry out this drilling in 2008, with resource and mining studies completed shortly thereafter. The Kjellmannsåsen deposit contains some of the highest grade iron mineralisation found within the Sydvaranger Iron Project, with historical drilling results including:-

- 87.9m grading 51.9% $Fe_{(total)}$ from 21m in K16
- 98m grading 37.8% $Fe_{(total)}$ from 38m in K22

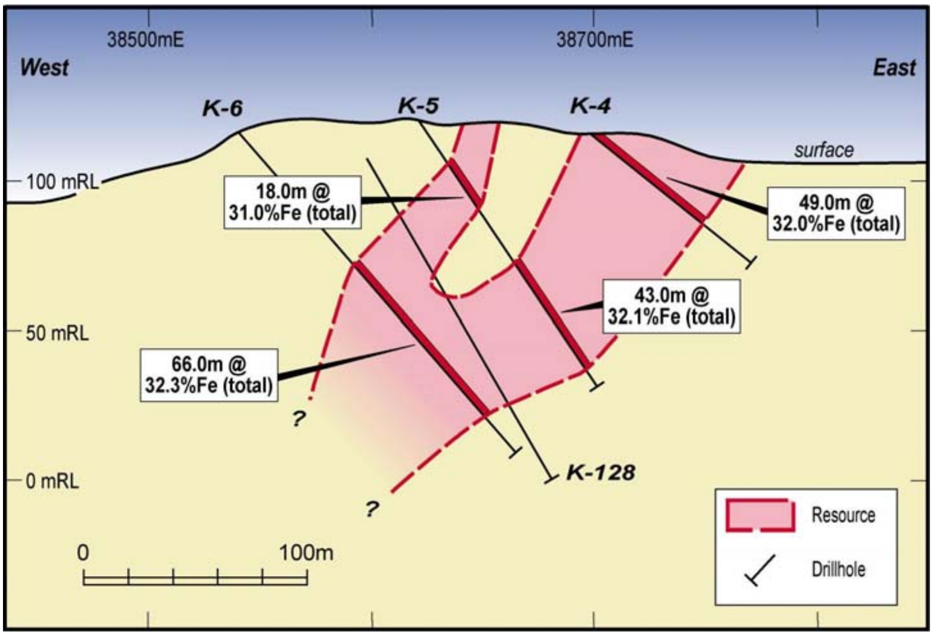
There is potential to expand the higher grade zones of the deposit through additional drilling. The results from the recent NIL drilling programme (shown in blue on Figure 10.2_1) have not been incorporated into the current resource estimates and these may have a positive impact on both the tonnes and grade of the resource.

Infill drilling by NIL has returned high grade results including:-

- 15m grading 34.9 % Fe (total) from 35m and 71m grading 44.4 % Fe (total) from 65m in KJ 37 located 50 m to the north of KJ 16
- 60m grading 41.1 % Fe (total) from 53m in KJ 34 located 100 m to the south of KJ 16

The NIL drillhole (K128) in Figure 10.2_2 is 50m south of the current resource for Kjellmannsåsen and intersected 55m of iron formation, indicating the potential to expand the deposit in this direction.

Figure 10.2_2
Kjellmannsåsen Deposit – Cross Section 80mN (Local Grid)

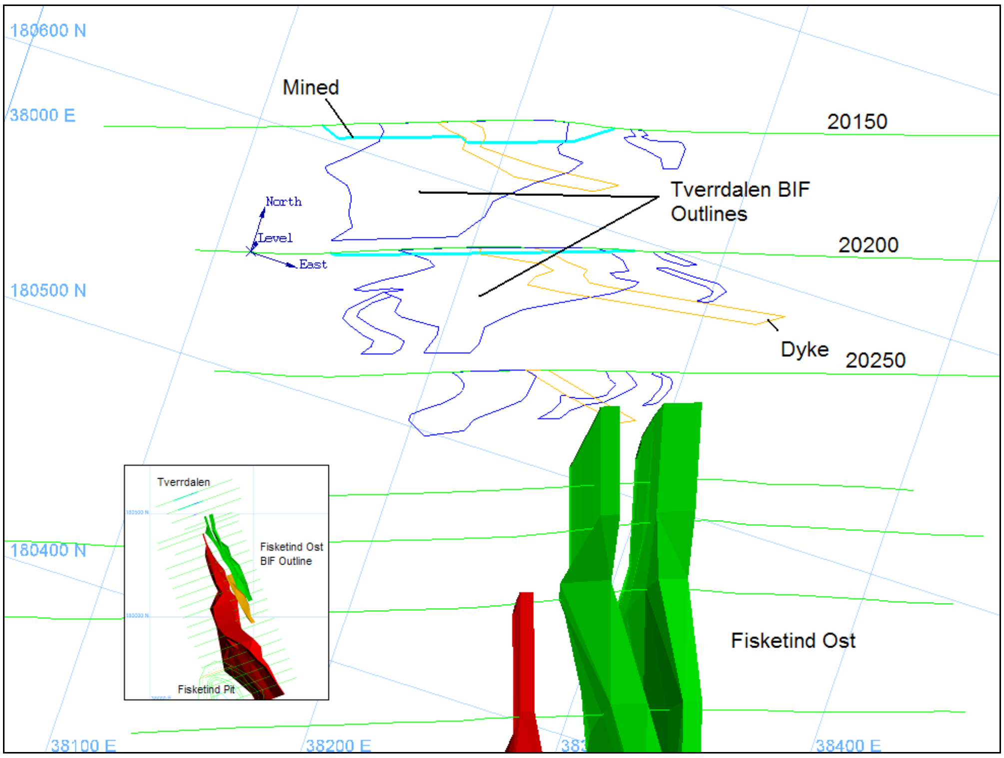


10.3 Southern Deposits

To support an expanded production rate, NIL intends to continue drilling out the known deposits such as Tverrdalen, Jerntoppen, Hyttemalmen, Fisketind Øst and Fisketind (the Southern Deposits) in an attempt to create a large pit that incorporates the majority of the 4km strike length of mineralisation. Figure 10.3_1 illustrates the proximity of the Tverrdalen and Fisketind Øst deposits, and the likelihood that they are in fact the same mineralised iron formation with minor offsets.

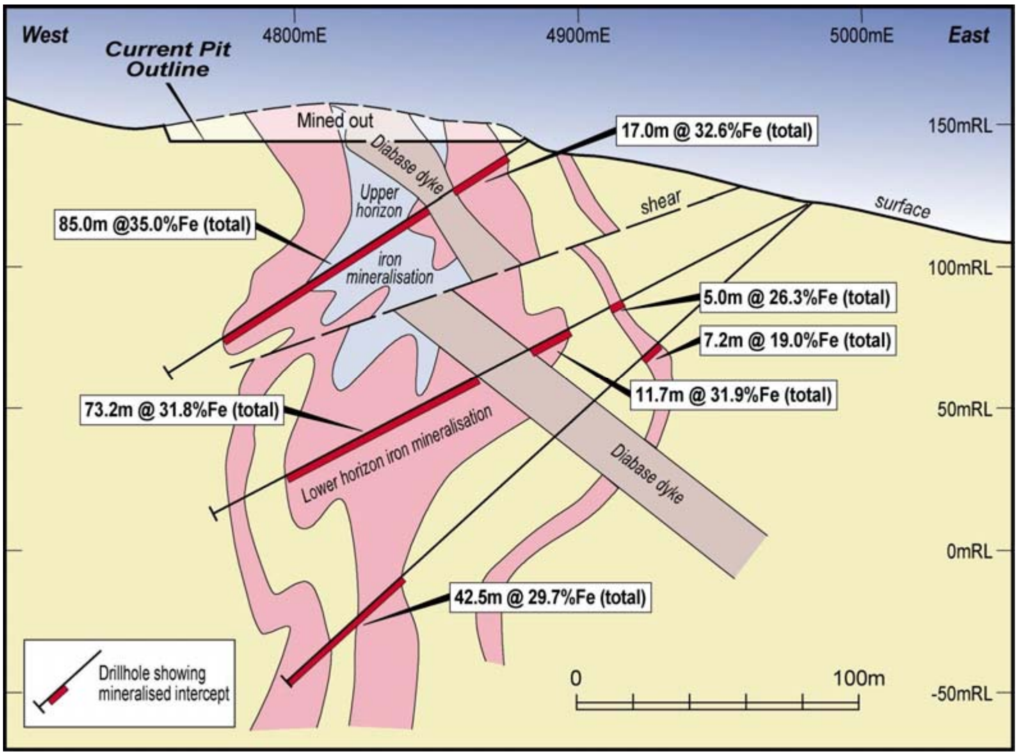
As can be seen from Figure 10.3_2, the Tverrdalen deposit has been mined to a relatively shallow depth of 42m, with approximately 26Mt of ore mined between 1976 and 1987. There is excellent potential to resume mining at the Tverrdalen deposit, and NIL plans to compile the drilling information into a digital database and estimate a resource to be used for pit optimisations in the near future.

Figure 10.3_1
Fisketind Øst and Tverrdalen Deposits



(View steeply to the North; Insert showing Plan View)

Figure 10.3_2
Tverrdalen Deposits - Section 20,200 (Local Grid)



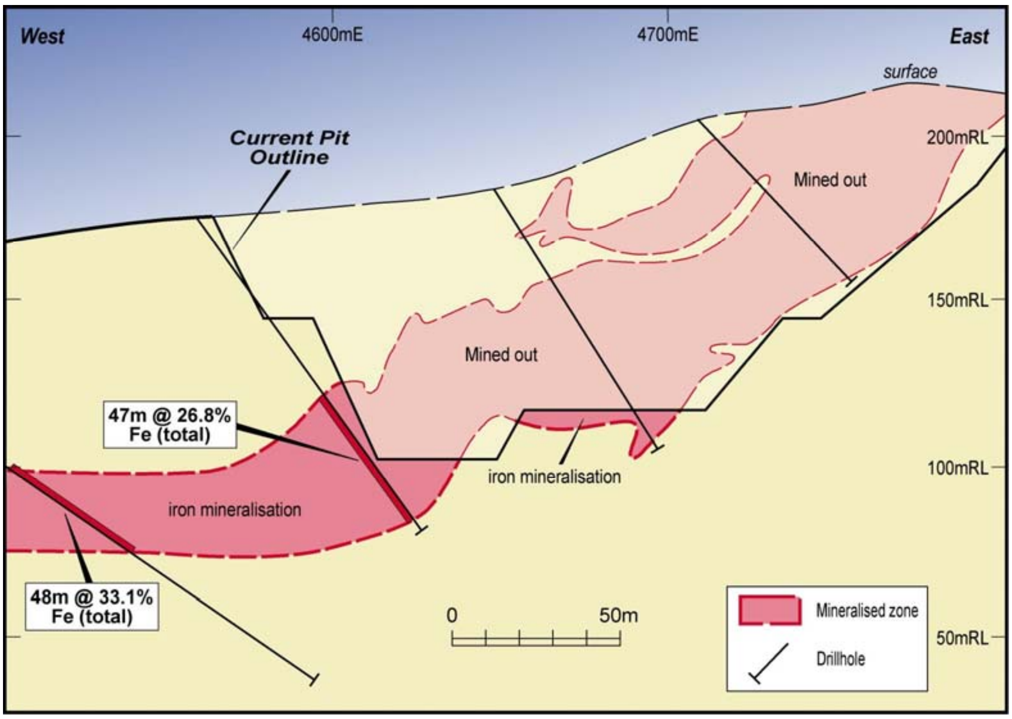
Many of the previously mined pits contain remnant iron mineralisation that may prove economic to extract. Previous studies identified the potential to extract iron mineralisation from goodbye cuts in the Søstervann, Bjørnefjell, Grundtjern, Fisketind and Jerntoppen pits as shown in Table 10.3_1.

Table 10.3_1
Sydvaranger Iron Project
Historical Reserves and Mineral Inventory (BDA, 1999) – non JORC

Deposit	Grade (% Fe Mag)	Proven(Mt)	Possible (Mt)	Total (Mt)
Bjørnevatn	32.6	78.8		78.8
Søstervann	30.0		0.4	0.4
Bjørnefjell	31		0.1	0.1
Grundtjern	30		0.4	0.4
Fisketind	30		0.2	0.2
Jerntoppen	29		1.5	1.5
Oskarmalmen	29		4.8	4.8
Hyttemalmen	31		1.8	1.8
Kjellmannsåsen	31		12.1	12.1
Total	32	78.8	21.3	100.1

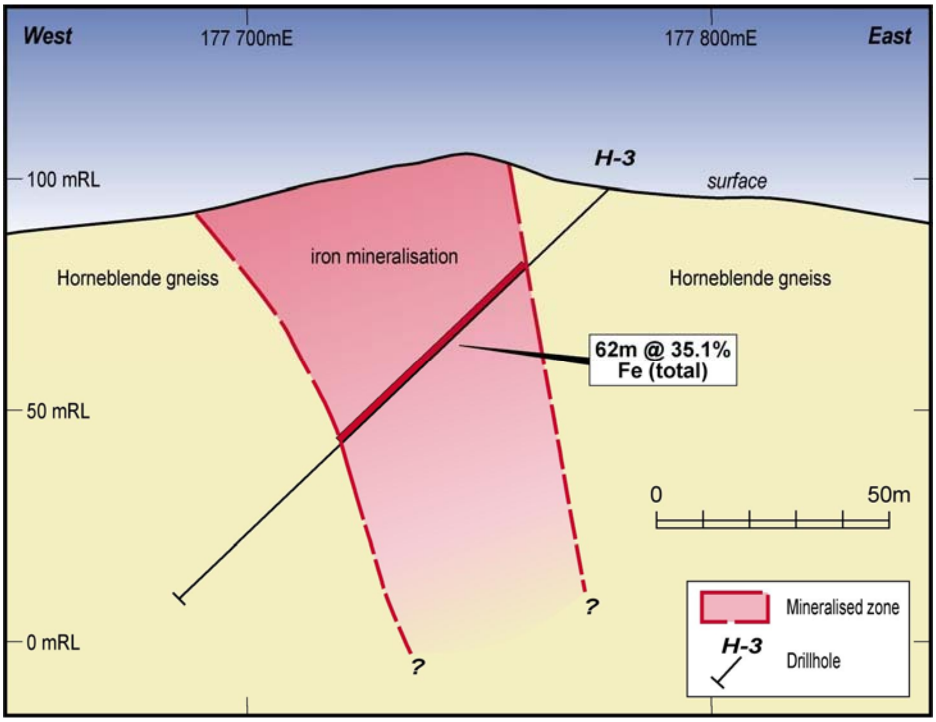
The current higher iron ore prices are likely to have improved the economics of recovering mineralisation from these remnant pits, as demonstrated for the Fisketind deposit in Figure 10.3_3, there is significant iron mineralisation remaining in some deposits that require further drilling and mining studies.

Figure 10.3_3
Fisketind Deposit - Remnant Iron Mineralisation – Section 21,150 (Local Grid)



In addition to the deposits along strike from the planned Fisketind Øst pit, there are several other prospects that have been shown to contain potentially economic grades of iron mineralisation by previous drilling. These include the Hyttemalmen Prospect, which is located immediately to the south of Jerntoppen, where limited drilling and extensive surface mapping has identified iron mineralisation over a strike length of 300m. As can be seen in Figure 10.3_4, the drilling has not closed the mineralisation off at depth or along strike, and there is good potential to identify additional high grade, near surface resources at this prospect.

Figure 10.3_4
Hyttemalmen Prospect – NE-SW Section (Local Grid)



10.4 Expansion Scenario

Access to additional iron ore resources within the Project would essentially appear to be unlimited and there is a high likelihood that their viability under present market conditions will be confirmed with further exploration. The infrastructure has the potential to form the basis of an expanded production scenario, subject to economic studies and additional capital expenditure.

Given the existing large resource base and the excellent potential to convert existing known mineralisation to additional resources, NIL intends to examine the feasibility of an expanded production scenario immediately after listing. This will be carried out in parallel with the recommencement of operations. The expansion scenario will be based on a milling rate of 12Mtpa to 15Mtpa to produce in the order of 6Mtpa of concentrate.

The expansion scenario will examine the relocation of the secondary and tertiary crushing from Kirkenes to the mine site. This will enable the crushing circuit to be reconfigured from open circuit to closed circuit, increasing efficiencies and reducing the product size from a P_{80} of 12.5mm to a P_{80} of 8mm. This finer product size from the tertiary crushers would allow the cobbing plant to reject a lager fraction of non-magnetic material, which in turn would increase the overall capacity of the downstream comminution and beneficiation sections.

Depending on the mine plan, one or both of the existing primary gyratory crushers (~12Mtpa capacity each) are variously capable of being relocated to the perimeter of a larger pit, to a more remote southern pit, or internally in the current pit, with subsequent conveying to the rail transfer to provide significant haulage cost savings.

Initial modelling suggests that the railway may be a bottleneck for future expansions. This potential bottleneck could be removed via the relocation of the tertiary crushing circuit to the mine site, resulting in a greater rejection of non-magnetic material prior to railing the ore to Kirkenes, or through additional rolling stock to meet the forecast demand. There are several sidings at both ends of the line that could be used for shunting of longer trains in order to increase the rail transfer capacity.

The concentrator building is larger than required for the proposed Development Plan, and there is potential to use this space for the additional milling capacity required under an expanded scenario. Producing a finer product from a closed circuit tertiary crushing circuit would also increase the throughput capacity of the existing grinding circuit.

The capital expenditure required to expand the concentrator would be limited to installing equipment such as grinding mills, magnetic separators, filters and thickeners, as the ancillary infrastructure that currently exists at the mine would be adequate, with only water supply potentially representing an issue (assuming only fresh water is to be utilised).

NIL also plans to examine the potential to build a pellet plant adjacent to the concentrator to capture some of the additional value in the pellet market. Current pellet prices are at a significant premium to concentrate prices, with the additional operating costs associated with producing pellets being relatively modest.

11 PROJECT ECONOMICS

NIL proposes to mine approximately 409Mt of material from which 132Mt of mineral inventory at a grade of 32.5% $Fe_{(total)}$ would be processed to produce 56.2Mt of magnetite concentrate at a 67.5% Fe grade over the 19 year life of the project. Table 11_1 contains a summary of the financial model for the life of the project.

Table 11_1
Sydvaranger Iron Project
Financial Model Summary

Area	Units	Life of Mine Total
Tonnes Mined -Total	Tonnes	408,857,852
Tonnes Milled	Tonnes	132,299,123
Waste:Ore Ratio	T:T	2.1
Grade (Fe Total)	%	32.5%
Concentrate Produced	DMT	56,228,693
Mining Cost	US$	959.2
Rail Freight	US$M	94.3
Milling	US$M	684.0
G+A	US$M	45.5
Port	US$M	47.8
Subtotal Operating Costs	US$M	1,830.9
Operating Cost/t Conc	US$/dmt	32.56

The operating costs average US$13.84 per tonne of mill feed processed at a throughput of 7Mtpa. Within the operating cost structure, the fixed cost component associated with rail freight, milling and G&A represents approximately 60% of the total operating costs. The project could gain significant operational cost savings with any increase in mill throughput. The breakdown of the operating costs is shown in Table 11_2.

The mining operating costs equate to US$2.38/t of material moved, which, at the average life of mine waste: ore ratio of 2.1:1, equals US$7.25/t of mill feed. An 8% contingency has also been allowed for in addition to those costs stated above for the first year of operation to account for process commissioning costs.

The forecast operating costs equate to US$32.56/dmt of concentrate as shown in Table 11_2.

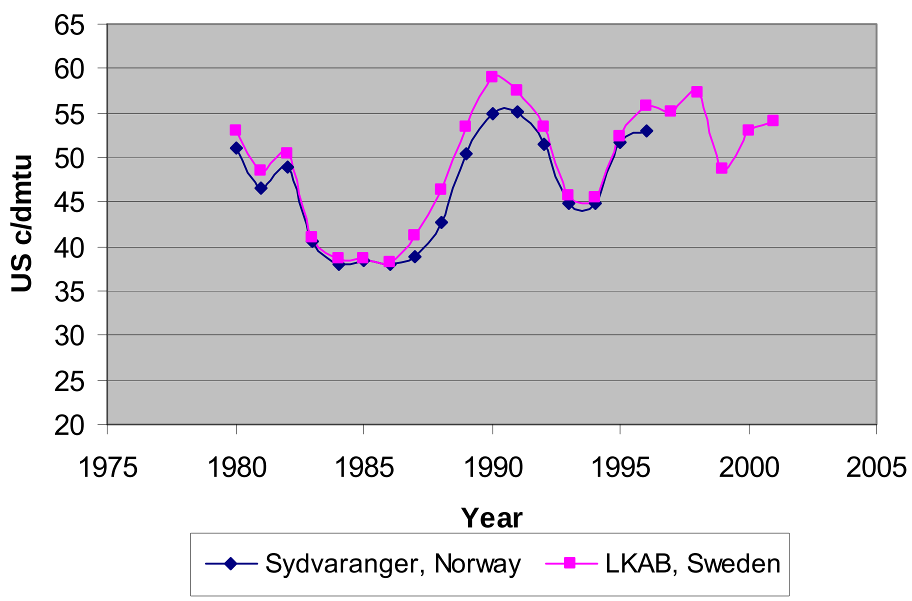
Table 11_2
Sydvaranger Iron Project
Estimated Operating Cost Breakdown over Life-of-Mine

Operating Costs	US$/t of Mill Feed	US$/t of Concentrate
Mining Operating Cost	$7.25	$17.06
Rail Freight Cost	$0.71	$1.68
Processing Cost	$5.17	$12.17
General and Administrative Costs	$0.34	$0.81
Port Costs	$0.36	$0.85
Total	**$13.84**	**$32.56**

A concentrate value has not been assigned for the purposes of this report, however the current price for iron concentrate with specifications similar to that produced by the Sydvaranger Iron Project is estimated to be US$65/dmt FOB. This compares to the US$48/dmt FOB used as the basis for the financial evaluation of the project by NIL.

Historically, the Sydvaranger iron concentrates have been priced similarly to the fines produced by LKAB, a Swedish mineral products company wholly owned by the Swedish government whose primary business is the mining of iron ore from its main mines in Kiruna and Malmberget. Figure 11_1 shows the historical iron ore pellet prices that were realised by Sydvaranger and LKAB.

Figure 11_1
Historical Iron Ore Pellet Prices



A capital component of US$72.2 million has been budgeted to recommission the processing facility and US$2 million to recommence mining operations. Approximately US$12.3 million has been allocated as working capital, with a sustaining capital budget of US$2.5 million per annum for the life of the project. Pre-stripping of the pits is budgeted to cost US$13.6 million.

NIL intends to provide for the US$43.0 million required for the initial mining fleet by seeking mining fleet lease agreements with the equipment suppliers, thus reducing the upfront capital requirement for NIL. The mine operating costs include a lease component to cover the finance component of the lease in addition to the capital repayments.

Table 11_3 shows the start up capital costs (excluding the mine fleet) for the project, which is estimated to be US$100.2 million.

Table 11_3 Sydvaranger Iron Project Pre Production Capital Cost Summary	
Area	**US$M**
Process Plant	72.2
Mining	2.0
Pre Strip (incl. finance charges)	13.6
Working Capital	12.3
Total	**100.2**

Whilst the capital and operating costs presented in this report have been expressed in US$, they will in fact be comprised of costs in a variety of currencies, including NOK, Euro, A$ and US$. The exchange rate used for the conversion of the expenses incurred in NOK to US$ is 6:1. Should the exchange rates between the various currencies fluctuate, the costs as expressed in US$ will vary accordingly. The primary operating cost inputs and their relevant currency are given below:-

- Labour NOK
- Power NOK
- Grinding Media US$
- Mine Fleet US$ and Euro
- Fuel NOK, heavily dependent on US$ oil price

RSG Global considers the proposed capital and operating costs to be appropriate for an operation of this nature, whilst noting that NIL's Development Plan for the Sydvaranger Iron Project is based on in-pit Inferred Resources, referred to as the Mineral Inventory, and not on Ore Reserves.

11.1 Risk Analysis

RSG Global prefers to highlight areas of risk and the potential impacts of that risk on the Project, and to categorise the risks as high, medium or low in the context of risks that would normally be expected in similar mines.

The level of risk allocated to each discipline is shown in Table 11.1_1, along with the likely outcome if the recommended remedial activity is carried out.

Table 11.1_1
Sydvaranger Iron Project
Technical Risk Summary

Item	Relative Risk	Highlighted Concerns	Remedial Action Required	Likely Amended Risk
Geology and Resources	Low to Medium	Inferred status, large amount of data on site and results from infill drilling to be incorporated to upgrade to higher resource category	Incorporate historical and infill data	Low
Open Pit Mining	Low	Development plan based on in-pit Inferred Resources, mining schedules at annualised basis, fleet selection not completed	Complete feasibility study based on Ore Reserves, complete mining schedules on quarterly and monthly basis	Low
Metallurgy and Processing	Low	None	None	Low
Tailings Disposal and Environmental	Medium	Several permits outstanding, perceived risk for submarine tailings	Obtain permits	Low
Infrastructure	Low	None	None	Low
Capital Costs	Low to Medium	Used plant uncertainty	Scope works adequately and ensure suitable contingency is applied	Low
Operating Costs	Low to Medium	Mining costs at pre-feasibility study level	Complete mining studies, tender fleet and major consumables	Low
Project Implementation	Medium	Refurbishment of plant, obtaining suitable skilled people	Ensure sufficient contingency allowed, employ experienced owners team	Low
Project Economics	Low	Minor uncertainty with regards to mining costs, used plant, exchange rate exposure	None	Low

12 GLOSSARY OF TECHNICAL TERMS

%	Percent
%Fe	Percent iron.
acid	An igneous rock with 10% or more free quartz.
AIG	Australian Institute of Geoscientists.
amphibolite	A metamorphic crystalline rock consisting mainly of amphibole and some plagioclase.
anticline	A fold in rocks in which strata dip in opposite directions away from the central axis.
antiform	An anticline-like structure.
aquifer	Porous and permeable rock or strata that contains or acts as a conduit for groundwater.
Archaean	An era of geological time spanning the period from 3,800 million years to 2,500 million years before present.
AusIMM	Australasian Institute of Mining and Metallurgy
banded iron formation (BIF)	A rock consisting essentially of iron oxides and cherty silica, and possessing a marked banded appearance.
basal contact	Lower boundary to a particular rock type
basalt	An extrusive volcanic rock of low silica (<55%) and high iron and magnesium composition, composed primarily of plagioclase and pyroxene, with or without olivine.
basic	A quartz-free igneous rock containing feldspars.
basin	A large depression within which sediments are sequentially deposited and lithified.
beam	The width of a ship or boat.
bedding	The arrangement of a sedimentary rock in beds or layers of varying thickness and character.
bench	A ledge that forms a single level of operation above which minerals or waste materials are excavated from a contiguous bank or bench face.
bench height	The height of the wall remaining after progressive excavation during open pit mining.
bench-scale metallurgical testwork	Testwork completed on small representative mineralised samples to determine the indicative comminution and recovery characteristics.
blank	Sample with quantified very low levels of elements of interest, usually used to calibrate assay equipment and/or batches of samples.
block model	A 3D array of cells constructed to enable recording of variables of interest such as grade.
CaO	Chemical formula for calcium oxide or carbonate.
check umpire assaying	Check assays derived from an independent and internationally accredited laboratory to verify the accuracy and precision of assays generated by the primary laboratory
composite	A statistical technique wherein all sampled intervals are given the same length or alternatively, combining more than one sample interval or result to provide an average.
concentrate	A product containing valuable minerals from which most of the waste material in the ore has been separated.

concentrator plant	An industrial plant that reduces the quantity of ore feed by removing part of the waste component, thereby increasing the grade of the economic component.
contact	Surface which marks the change between rocks of different type.
craton	Large, and usually ancient, stable mass of the earth's crust.
DCF	Discounted cashflow.
deformed	A general term for the process of folding, faulting, shearing, compression or extension of rocks as a result of stress.
diamond core	Cylindrical core of rock produced by drilling with a diamond set or diamond impregnated bit.
diamond drilling	Method of obtaining cylindrical core of rock by drilling with a diamond set or diamond impregnated bit.
dilution	Waste which is unavoidably mined with ore.
dip	The angle at which a rock stratum or structure is inclined from the horizontal.
direct reduction (DR)	In a direct reduction process, lump iron oxide pellets and/or lump iron ore, are reduced (oxygen removed) by a reducing gas, producing direct reduced iron (DRI).
directional variogram	A geostatistical method of describing the variability of a variable as a function of distance in a specified orientation often displayed graphically.
dolerite	A medium grained mafic intrusive igneous rock composed mostly of pyroxenes and sodium-calcium feldspar.
down-hole survey	The electronic or physical measurement of the three dimensional position and orientation of a drillhole, measured by means of lowering instruments down the hole.
DR	Direct reduction.
drill and blast	Portion of a typical mining sequence in which the rock mass is drilled and the desegregated with explosives.
drilling	A technique or process of making a circular hole in the ground with a drilling machine to obtain a subsurface rock or soil sample.
dry bulk density	The density of a rock which takes into account voids.
dry magnetic separation	A dry metallurgical process which creates an environment comprising a magnetic force (Fm), a gravitational force (Fg) and a drag force (Fd) where magnetic particles can be separated from nonmagnetic particles.
DT Conc Fe	Davis Tube concentrate iron grade, which is measured by a Davis Tube apparatus.
DT Mass Rec	Davis Tube mass recovery, which is the ratio of final concentrate to initial feed.
DTM	Digital terrain model.
DTR	Short for DT Mass Rec.
DWT	Dead weight tonne, is the difference between the light and loaded displacements of a ship or barge. The Dead weight tonnage comprises the cargo, stores, ballast, fresh water, fuel oil, passengers, crew and their effects.
dyke	A tabular body of intrusive igneous rock, crosscutting the host strata at an oblique angle.
Fe	Chemical symbol for iron.
feasibility study	An advanced study undertaken to determine the economic viability of a mineral deposit to a high degree of accuracy.
FEL	Front-end loader.

field duplicate sample	Repeat samples taken in the field and analysed as a test for sampling error and laboratory precision levels.
first structure	This is used to refer to the model fitted to the shortest range of variability in any direction of the directional variogram.
FOB	Free on board.
footwall	The mass of rock lying below a fault, vein or zone of mineralisation.
	The mass of rock below a fault, vein or zone of mineralisation.
G&A	General and administration costs.
garnetiferous	Containing the silicate mineral, garnet.
geophysics	The study of the earth's physical characteristics.
geostatistical	This is the application of probability theory and statistics to describe the variation of a variable, such as grade, in space.
geotechnical	Rock quality and structural investigations of rock masses.
Gl	Gigalitres, or billions of litres, a metric unit measure of liquid volume.
gneiss	A foliated course grain sized rock formed during high grade regional metamorphism
granite	A coarse-grained igneous rock containing mainly quartz and feldspar minerals and subordinate micas.
grinding	Size reduction into fine particles; comminution.
Ha	Hectare, standard metric unit area 100m by 100m.
haematite	A common oxide ore of iron, Fe2O3.
hangingwall	The mass of rock above a fault, vein or zone of mineralisation.
head-grade	The average grade of ore entering a processing plant.
HFO	Heavy fuel oil
hinge zone	A zone along a fold where the curvature is at a maximum.
hydrogeology	Study of groundwater and its influence on rock mechanics.
hydrology	The study of surface water.
igneous	Rocks that have solidified from a magma.
Indicated Resource	Insitu mineral resource, estimated with a moderate degree of confidence, to which economic parameters can be applied.
Inferred Resource	Insitu mineral resource, estimated with a low degree of confidence, to which economic parameters cannot be applied.
inselberg	A prominent isolated residual hill rising abruptly from an extensive erosion surface.
interpolation	Estimation of a statistical value from its mathematical or graphical position intermediate in a series of determined points.
inter-ramp pit wall slope angles	Overall slope between the actual wall batter angle and the catch berm in an open pit mine.
isoclinal	Describes a tight fold whereby the limbs dips in the same direction at the same angle.
JORC Code	The Australasian Code for Reporting of Mineral Resources and Ore Reserves (the 'JORC Code' or 'the Code'), which sets out minimum standards, recommendations and guidelines for Public Reporting of exploration results, Mineral Resources and Ore Reserves in Australasia. This code is prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Australian Mineral Industry Council (JORC).
JV	Joint Venture.

kl	Kilolitre, or thousand litres, a standard metric unit measure of liquid volume.
km	Kilometre, a standard metric unit measure of distance.
km2	Square kilometre, a standard metric unit measure of area.
kriging variance	This is a statistical measure derived during the process of geostatistical estimation using ordinary kriging.
kW	Kilowatt, or thousand watts, a standard metric unit measure of power.
l	Litre, a standard metric unit measure of liquid volume.
lag	Kilowatt, or thousand watts, a standard metric unit measure of power.
length-weighting	This refers to a method of calculation of an unbiased average that combines grades in proportions based on length.
leptinite	A banded variety of high grade metamorphic rock (granulite).
limb	The side or flank of a fold structure.
load and haul	The portion of a typical mining sequence in which the desegregated rock is loaded into trucks and hauled either to the processing facility or to the waste dump.
LOI	Loss on ignition, the loss in weight of a sample of material when heated to a high temperature.
m	Metre, a standard metric unit measure of distance.
m^3	Cubic metre, a standard metric unit measure of area.
magnetic separation	The separation of magnetic materials from nonmagnetic materials, using a magnet, important process in the beneficiation of iron ores.
magnetic susceptibility	Measure of the degree to which a rock or mineral causes an applied magnetic field to bend.
magnetite	A natural occurring oxide of iron (Fe3O4), which has strong magnetic properties.
major direction	The direction with the longest distance of spatial variability as derived from the directional variogram.
mapping	A field survey method involving recording geological and orientated structural information.
Measured Resource	Insitu mineral resource calculated with a high confidence level to which economic parameters have not been applied.
metallurgical testwork	The testing of representative ore samples in order to define the physical properties and metallurgical characteristics of the ore.
metamorphic	A rock that has been altered by physical and chemical processes involving heat, pressure and derived fluids.
metamorphosed	Alteration of rock and changes in mineral composition due to the effects of pressure, temperature and fluids.
mg/l	Milligrammes per litre, a standard metric unit measure of concentration dissolved in water.
Mineral Resource	A concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
mining recovery	The proportion of material which is successfully mined and transported to the processing facility.
Ml	Megalitre, or million litres, a standard metric unit measure of fluid volume.
Ml/day	Megalitres per day.

mm	Millimetre, a standard metric unit measure of distance.
Mm^3	Million cubic metres.
MQ	Magnetite quartzite
Mt	Million tonnes, a standard metric unit measure of weight.
Mtpa	Million metric tonnes per annum.
mylonite	A hard compact rock with a streaky or banded structure produced by extreme granulation of the original rock mass in a fault or thrust zone.
normal fault	A fault in which the hangingwall has been downthrown relative to the footwall.
NPV	Net Present Value, is a measure of the project economics whereby it compares the value of a dollar today to the value of that same dollar in the future, taking inflation and returns into account.
nugget	It refers to the abrupt change in grade that can be expected to occur over short distances.
off-take agreement	An off-take agreement is a long-term sale agreement.
open fold	A fold in which the limbs diverge at a large angle.
open hole percussion drilling	A percussion drilling technique whereby the sample cuttings return outside the rod string, resulting in the potential for increased contamination.
open pit	A mine working or excavation open to the surface.
Ordinary Kriging (OK)	A geostatistical grade estimation technique, which reproduces modeled spatial variability for a given block size.
Ore Reserve	That part of the resource that meets minimum physical and chemical criteria related to specified mining and production practices, including those of grade, quality, thickness and depth, and can be reasonably assumed to be economically and legally extractable or producible at the time of determination. The feasibility of the specified mining and production practices must have been demonstrated or can be reasonably assumed on the basis of tests and measurements.
oversize	Crushed or ground ore of larger relative diameter that is retained by a screen of nominated mesh size.
owner-mining	The scenario where the Project owner purchases and maintains the mining equipment.
oxidised	Decomposed by exposure to the atmosphere and ground water.
P	Chemical symbol for phosphorous.
parasitic folding	Small scale fold on the limb of a larger fold.
parent cell	This is the basic building block used in the construction of a volumetric representation of the geological features of a mineral deposit.
passing size	Screen aperture size through which a designated percentage of crushed or ground material must pass.
pellet plant	It is process where the processed ore (concentrate) is manufactured into pellets.
peneplain	A board, flat area of the earth's surface that has been deflated by erosional processes.
petrology	Study of rocks, frequently with the aid of a microscope.
pilot scale metallurgical testwork	Testwork completed on large representative mineralised samples to determine comminution and recovery characteristics to a reasonable degree of accuracy.
pit optimisation	Mathematical, computer-based technique for determining the pit profile that returns the maximum value for a given set of economic and physical parameters.

plunge	The attitude of a line in a plane which is used to define the orientation of fold hinges, mineralised zones and other structures.
pre-concentrate	An intermediate product produced through a first pass beneficiation process to reduce the mass but that requires further refining to produce the final product.
pre-feasibility studies	An intermediate study to determine the likely economic viability of a project.
production schedule	A schedule that shows the planned production requirements on a periodic basis, such as waste to be moved, ore to be mined etc.
Proterozoic	An era of geological time spanning the period from 2,500 million years to 570 million years before present.
QMM	A less mineralised magnetite bearing quartzite.
quartzite	A sandstone that has been metamorphosed or indurated by the recrystallisation of silica grains.
recrystalisation	Reorganisation of the crystal lattice of a rock due to the effects of heat and pressure during metamorphism.
regression analysis	This is a method that uses statistics to determine the relationship between two variables.
rehandle	This refers to ore that can not be directly dumped into the crusher (for whatever reason) but needs to be temporarily stockpiled to be picked up again at a later stage and fed to the crusher.
reserves	That part of a mineral occurrence (resource) for which sufficient technical and economic studies have been carried out to demonstrate that extraction can be economically justified according to accepted industry codes and statutory regulations governing health, safety and environment.
reverse circulation percussion (RC) drilling	A drilling technique similar to percussion drilling, where the sample cuttings return inside the rod string, resulting in reduced contamination.
RO	Reverse osmosis, which is a membrane filtration technology for fine particle removal from liquids.
rolling stock	The wheeled vehicles, such as rail cars, locomotives etc, that run on a fixed railway track.
ROM	Run of mine, refers to the ore that has been mined from the open cast pit.
sailing draft	Depth of a ship or boat below the waterline.
sample support	The volume of a sample or cell based on its dimensions, shape and orientation.
scoping studies	A preliminary study to determine the likely viability of a project to a relatively low degree of accuracy.
second structure	This refers to the model fitted to the next range of variability (ie after the first) in any direction of the directional variogram.
semi-major direction	The direction with the second longest distance of spatial variability as derived from the directional variogram.
sensitivity analysis	The variation of parameters to test the sensitivity of cashflow models to those parameters.
service variable	This refers to a variable derived from the combination of other variables often grade and a physical characteristic to be used in geostatistical analysis.
sill	A sheet of igneous rock which is flat lying or has intruded parallel to stratigraphy.
SiO2	Chemical formula for silica or silican dioxide.
standard	A sample of known levels of elements of interest, usually used to calibrate assay equipment and/or batches of samples.
stratigraphy	Sequence of stratified rocks.
strike	Horizontal direction or trend of a geological structure.

sub-cell	Results from the division of a parent cell, often times used to more accurately model the geology.
succession	A sequence of successive rock layers.
Sydvaranger Iron Project	The Sydvaranger iron ore mine, concentrator, exploration tenements and associated infrastructure
synform	Syncline-like structure.
tailings	Waste material of processing from which valuable minerals or metals have been extracted.
thrust	A low angle (shallowly inclined) fault or shear.
tph	Tonnes per hour.
unfolding	A process that transforms folded strata into a planar form.
US$	United States of America dollars.
US$/t	United States of America dollars per metric tonne.
US$/t conc	United States of America dollars per metric tonne of mineral concentrate.
US$M	Million United States of America dollars.
US$M/yr	Million United States of America dollars per year.
VALMIN Code	Code and Guidelines for the Technical Assessment and/or Valuation of Mineral and Petroleum Assets and Mineral and Petroleum Securities for the use of Independent Expert Reports; maintained by the Australasian Institute of Mining and Metallurgy.
Variogram	A curve that characterises the spatial continuity of a data set.
volcanic	Formed or derived from a volcano.
weathered	Rocks which have been decomposed in situ.
wet magnetic concentrator	A wet metallurgical process which creates an environment comprising a magnetic force (Fm), a gravitational force (Fg) and a drag force (Fd) where magnetic particles can be separated from nonmagnetic particles.
wire-frame	A computer technique to define a surface or enclose a volume of interest within a series of three-dimensional coordinates.

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