DMT Consulting Ltd
International Mining Consultants

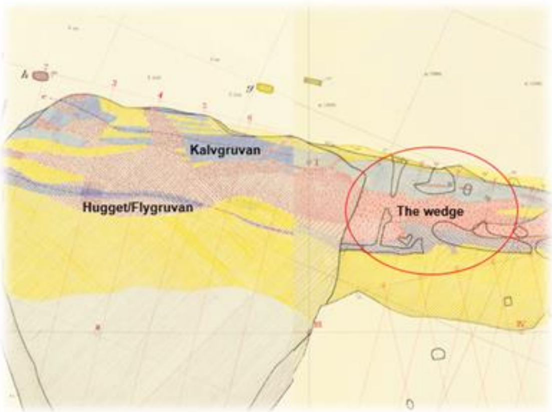
Mineral Resource Estimate

For the

Blötberget Iron Ore Project, Ludvika, Sweden

On behalf of

Nordic Iron Ore™



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1 EXECUTIVE SUMMARY

1.1 Introduction

DMT Consulting Ltd. (“**DMT**” or “**the Consultant**”) was retained by Nordic Iron Ore (“**NIO**” or ”**the Client**”), to prepare an independent Mineral Resource Estimate (“**MRE**” or “**the Study**”) for the Blötberget Iron Ore Project (“**the Project**”), located near Ludvika, Sweden.

The purpose of this report is to update the Mineral Resource Estimate for the Project.

The estimation of Mineral Resources has been prepared in compliance with the guidelines set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012.

NIO is a mining company aiming to reopen the main Ludvika mines - Blötberget and Håksberg, and resume iron ore production.

1.2 Technical Summary

1.2.1 Property Description & Location

The Blötberget Project is situated in Dalarna in central Sweden, approximately 500 m south east of the village of Blötberget, and near to the town of Ludvika.

The Project region is known as the Bergslagen District, famous for its very long mining and steelmaking history, with notable former and current production areas within this region.

1.2.2 Land Tenure

NIO currently holds 12 exploration permits, which together cover an area of 3,044.36 hectares. NIO also holds two mining concessions - Blötbergsgruva K nr 1 and Håksbergsgruva K nr 1, covering an area of 262.7 ha. All areas, besides those covered by the Väsman concession and parts of the Håksberg concessions are so called “brownfield” sites and have previously been worked and contain abandoned mines.

NIO applied for a mining concession within the Blötberget area in October 2010 and it was granted in August 2011. The mining concession, which runs for 25 years with possibility of extension, implies the right of exploitation and utilisation of iron, rare earths, and apatite. The environmental permit for this Project was granted in June 2014.

1.2.3 Local Infrastructure

Blötberget is located 2.5 km west of Route 50 and is directly accessible along well maintained asphalt roads.

Blötberget does not have its own railway station, however the main Gothenburg to Gävle line lies 2.5 km directly to the east of the Project.

The closest large town to Blötberget is Ludvika, which is located 12 km north east and has a population of approximately 14,500.

1.2.4 Climate & Physiography

The climate at the Project is classified as cold and temperate (sub-arctic or boreal), characterised by short, cool summers and long cold winters. Average annual precipitation is 713 mm and the average annual temperature is 4.6 °C.

The Project is located in an area dominated by arboreal forest. Generally, the local terrain consists of gently undulating hills, except for the area around Blötberget, which is predominantly flat and marshy. Elevation in the Project area varies between 150 and 250 m above sea level.

1.2.5 History

Mining and exploration in the Ludvika area has been active since the 1600's. The majority of this small scale mining was focused on iron production.

Blötberget originally operated as two separate mines from the early 1900s, the German owned Vulcanus "original" mine and the Swedish owned Blötberget "new" mine.

Blötberget started operations in 1944. After the Second World War, in 1949, the Vulcanus mine regained Swedish ownership and continued production until the mine closed in 1979. Since 1979, the deposit has been controlled by several companies through exploration leases, until NIO was formed in 2008.

Airborne and ground-based geophysical surveys over the Project area were carried out in the 1960s and 1950s respectively.

From 1942 until 1977, the deposits were systematically diamond drilled for definition and extension.

Most of the drillholes (~80 %) were collared from underground. In areas where historic mining was on-going or planned, regular 'fan' drilling was carried out. Longer holes were drilled from underground positions in cross cuts from the hanging wall, with only the drillholes probing the deeper, down dip parts of the deposit, drilled from surface.

A total of 391 drillholes have been drilled historically at Blötberget, totalling 32,751 m.

The mining company, Stora Kopparbergs Bergslags AB submitted a closure report to the Inspector of Mines at the cessation of mining activities in 1979. The 'reserves' (non-compliant) at that time were estimated to be 25 Mt at an average grade of 43 % Fe.

The final production achieved in 1979 at Blötberget was 400 Ktpa (thousand tonnes per annum).

The process plant handled up to a maximum of 415,000 tonnes of feed material per annum. Large changes in the proportion of magnetite/hematite concentrate are noted in the production over the five year period ahead of closure in 1979, and reflect the variability of the ore composition with respect to hematite and magnetite. Historically the recovery has varied between 76.3% and 85.6%. Mineral recovery appears to be greater when magnetite percentages are higher.

1.2.6 Geology

The Blötberget apatite-iron oxide deposit is located in the western part of the intensely mineralised Paleoproterozoic Bergslagen Province in south central Sweden.

The Province is dominated by several generations of intrusive rocks, which enclose inliers of metasedimentary and metavolcanic rocks. The metasedimentary and metavolcanic inliers are of great importance as they host an overwhelming majority of the more than 6,000 known metallic mineral deposits and prospects in the Province. These rocks have been subjected to multiple-phase deformation and metamorphism under mainly greenschist to amphibolites facies conditions.

The host rocks to the Blötberget iron mineralisation have traditionally been classified as belonging to the ”leptite formation”, i.e. mainly felsic to, more rarely, intermediate, regionally metamorphosed (c. 1.90–1.87 Ga) volcanic rocks.

The mineralisation at Blötberget is a so-called "apatite lake ore" which, besides the iron minerals magnetite and hematite, also contains the phosphorus mineral apatite.

The mineralised zone at Blötberget appears as a set of vertically narrow, elongated lenses dipping 50°–70° to the SE. Airborne geophysical surveys and historical drillholes indicate that mineralisation extends to a depth of at least 900 m below surface.

The Blötberget field consists of five mineralised bodies, from west to east, these are:

- Kalvgruvan;
- Flygruvan;
- Hugget & Betstamalmen; and
- Sandellmalmen.

The Blötberget deposit is referred to as a Kiruna type deposit although the exact origin is still disputed.

1.2.7 Exploration & Drilling

2009

At the start of NIO’s ownership of the Project in 2009, Kopparberg Mineral AB carried out a detailed magnetometry survey over a limited part of the Blötberget area to assist with defining the geometry of the mineralisation and planning further exploration works.

2011

During 2011/12 Berg och Gruvundersökningar AB ("**BGU**") was engaged by NIO to log and sample historical archive cores that were stored at the SGU repository in Malå.

13 cores, totalling 5077.21 m were logged for geological and geotechnical data (for RQD), then photographed (dry and wet).

2012

In 2012, a 16 hole drill programme which included twinned drilling to confirm the quality of historical drilling data, as well as infill and step-out drilling was completed by NIO.

Drilling for this programme totalled 7,430 m.

One hole, BB12015-MET, was drilled for the purposes of generating material for metallurgical sampling. To date, this has been the only hole drilled using oriented core.

No drillholes were water pressure tested during this drilling campaign.

2014

The 2014 NIO drilling programme was designed to investigate the area between Flygruvan/Kalvgruvan and Hugget and to infill the intermediate depth extension of Hugget in order to improve the confidence of the geological model.

13 drillholes, totalling 7,093 m, were drilled and one of the drillholes (BB_14-011) was drilled down-dip for geotechnical purposes. All holes were drilled with orientation information, and eight holes were subject to pump testing to provide information on the potential for water bearing fracture zones.

1.2.7.1 Logging

The core from the 2012 and 2014 drill programmes was logged and sampled at NIOs preparation facilities in Grängesberg. The core storage, logging and sampling facilities were inspected by DMT and found to be clean, well-organised and provide suitable conditions for logging and sampling.

The core is inspected for mislabelling or depth inaccuracies, checked using a magnetic pen and subject to a UV lamp to detect presence of Scheelite (tungsten).

The cores orientation is then marked and the geologist logs the core in accordance with NIOs geological logging template and in accordance with industry standard procedures.

Core photography, point load testing, drill core structure orientation, geotechnical logging and classification complete the logging procedure.

1.2.8 Sampling & Analysis

The core from the 2012 and 2014 drill programmes was collected in the field by NIO's technicians or geologists and transported directly to the NIO core logging and sample preparation facilities in Grängesberg.

NIO compiled its own Sampling Quality Manual, which sets out procedures in accordance with industry best practice, relating to core handling, sampling, analysis and QA/QC procedures

Analyses for the 2012 and 2014 samples was carried out by ALS Global in Vancouver.

As part of the verification program, NIO has re-logged and re-assayed many of the located historical cores. In total, 45 drillholes from Blötberget were found in Malå and 15 at the former mine storage facility in Håksberg.

There has been re-logging of 31 of these cores (6036 m), 950 m of mineralisation has been re-sampled and re-assayed according to current industry practice and standards. Recent re-analysis of the historical holes indicate that Fe has been under represented but is a consistent <15 Fe % error which means there is reasonable confidence levels in the historical analysis

1.3 Mineral Resources

DMT applied only geological constraints and a grade of ~+15 % Fe to establish the mineralised wireframes and solids. Based on analysis of the available data, the internal waste and country rock was assigned a grade of 8 % Fe (total).

The total 'global' (geological) Measured and Indicated Resources for the Blötberget Project are estimated at 61.3 Mt at a grade of 36.6 % Fe (Total) and 0.5 % P.

DMT subsequently applied preliminary mining and economic parameters and assumptions to the geological wireframe model to estimate a preliminary cut-off grade ("**COG**").

The total Measured and Indicated Resources estimated for the Blötberget Project are 47.8 Mt at a grade of 41.5 % Fe (Total) and 0.5 % P at a COG of 25 % Fe (Table 1-1). Of these Measured and Indicated Resources, 62 % is magnetite and 38 % is hematite.

Table 1-1 Measured and Indicated Resources for the Blötberget Iron Project - January 2015

Fe Cut-off % Fe	Resource Category	Volume Mm^3	Tonnage Mt	Density t/m^3	Fe %	Magnetite %	Hematite %	Magnetite proportion	Hematite proportion	Phos. %
25	Measured	11.1	42.5	3.8	41.9	36.8	21.9	0.63	0.37	0.51
	Indicated	1.4	5.3	3.7	38.2	30.5	23.2	0.57	0.43	0.5
	Measured + Indicated	**12.5**	**47.8**	**3.8**	**41.5**	**36.1**	**22.0**	**0.62**	**0.38**	**0.51**
	Inferred	1.5	5.4	3.5	33.5	23.5	23.5	0.50	0.50	0.52

Notes:

1) JORC 2012 definitions were followed for estimating Mineral Resources;
2) Mineral Resources are estimated at a cut-off grade of 25 % Fe;
3) Mineral Resources are estimated using a five year historical average price of US$ 100 per tonne (Source: IndexMundi.com); and
4) Figures may not total due to rounding errors.

1.4 Conclusions

The Blötberget apatite-iron oxide deposit is located in the western part of the intensely mineralised Paleoproterozoic Bergslagen Province in south central Sweden.

The deposits in the neighbouring area occur along a ~40 km long, broad zone. This zone of mineralisation is the third largest iron ore deposit in Sweden by production, only outnumbered by the giant Kirunavaara and Malmberget iron ores in Norrbotten, northern Sweden.

Airborne geophysical surveys and historical drillholes indicate that mineralisation extends to a depth of at least 900 m below surface.

The Blötberget field consists of five mineralised bodies, from west to east, these are: Kalvgruvan ("**KALV**"); Flygruvan ("**FLY**"); Hugget ("**HUG**") and Betsta ("**The Wedge**"); Sandell ("**SAND**").

NIO applied for a mining concession within the Blötberget area in October 2010 and it was granted by the Mining Inspectorate of Sweden in August 2011. The mining concession, which runs for 25 years with possibility of extension, implies the right of exploitation and utilisation of iron, rare earths, and apatite. The environmental permit for this Project was granted in late June 2014.

The Hugget and Kalvgruvan/ Flygruvan zones had previously been mined out from near-surface to the 200 m and 240 m levels respectively. The units dip towards the southeast at between 50° and 55° in the near-surface mined-out areas, and flatten at depth to ~25°.

A drilling programme was undertaken by NIO during the summer and winter of 2012 and was completed in November 2012. This 16 hole programme included drilling to confirm the quality of historical drilling data, as well as infill and step-out drilling. NIO completed 16 drillholes totalling 7,430 m of drilling.

The 2014 drilling programme was designed to investigate the area between Flygruvan/Kalvgruvan and Hugget (formally known as "the Wedge" or Betsta area) and to infill the intermediate depth extension of Hugget in order to improve the confidence of the geological model. 13 drillholes, totalling 7,093 m, were drilled.

The Wedge was successfully explored during the 2014 drilling programme and, as a result, Kalvgruvan and Hugget/Flygruvan ("**HUG/FLY**") have now been shown to form continuous zones of mineralisation.

Mine maps and historical drilling data have been collected from various sources and digitised, where possible. Drill core from historical exploration drilling in the Blötberget project area has been recovered, re-logged and re-analysed.

DMT was provided with a comprehensive set of historical reports and data which have been collated and used in conjunction with data collected more recently by NIO in order to estimate and report Mineral Resources for the Blötberget Project in accordance with JORC standards.

In the resource development programme of 2012 and 2014 NIO completed industry standard QA/QC programmes to ensure the data is reliable and suitable for resource estimation. The drill density of the resource is adequate for the purpose and is reflected in the JORC compliant resource category classifications of Measured, Indicated and Inferred Mineral Resources.

DMT has relied heavily upon the information provided by NIO, however DMT has, where possible, verified data provided independently during the site visits.

DMT was able to overlay license information on the Mineral Resource estimate area to confirm that the deposit is within NIO's license. DMT has not undertaken a legal review of the licences and assume that all the required licences are in place.

The geology of the deposit is fairly well understood and DMT has constructed a wireframe geological model for the Blötberget deposit based upon a combination of logged lithologies, analytical and Saturation Magnetisation Analyser ("**SATMAGAN**") magnetite results, which has allowed the splitting of the deposit into geological domains comprising of magnetite-rich material of KALV and hematite-rich material of HUGFLY and SAND.

DMT has undertaken a statistical study of the data, which demonstrates adequate splitting of the data into single iron population domains, and undertaken a geostatistical study to investigate the grade continuity and to provide grade estimation parameters for Ordinary Kriging.

Geovia Surpac solid and block models were created using all of the available geological and sample analytical test data has defined an iron ore resource. At this stage of the investigation most of the mineral resources of Blötberget have been classified into the Measured and Indicated categories.

DMT has estimated the total Measured and Indicated Resources for the Blötberget Project to be 47.8 Mt at a grade of 41.5 % Fe (Total) and 0.5 % P at a preliminary COG of 25 % Fe. The magnetite-hematite ratio of the total resource is 62:38.

1.5 Recommendations

For the current MRE it is considered that there is only limited additional geological information that can be gained from further, expensive, surface based drilling programmes. The bulk of the upper levels of the Blötberget deposit that have been identified as part of the proposed mine plan are within the Measured Resource category, therefore the confidence in the model overall would not benefit from more drilling.

However, surface drilling for rock mechanical / structural and or metallurgical information for detailed mine planning should be considered. There is an indication in the current drillhole information and geological level mapping that there may be structural (fissures, joint and /or faults) that exist in the 'Wedge' area and vicinity that potential may impact on the rock quality and hydrogeology locally.

Further hydrogeological investigations on existing drill holes should be undertaken, it is considered that insufficient data exists on the hydrological and hydrogeological conditions for underground mining.

Definition and grade control drilling should commence as soon as there is access to the underground areas after dewatering. This close spaced drilling is required to support the transfer of Measured Resources into (Proven) Ore Reserves. The underground based drilling should follow a similar approach to that used historically, with a fan pattern of close spaced drilling into the mine blocks. Wider spaced and deeper, down – dip, drilling collared from hanging wall positions to provide increased confidence in the areas containing Indicated Resources.

2 INTRODUCTION

DMT Consulting Ltd. (“**DMT**” or “**the Consultant**”) was retained by Nordic Iron Ore (“**NIO**” or ”**the Client**”), to prepare an independent Mineral Resource Estimate (“**MRE**” or “**the Study**”) for the Blötberget Iron Ore Project (“**the Project**”), located near Ludvika, Sweden.

The purpose of this report is to update the Mineral Resource Estimate for the Project.

The estimation of Mineral Resources has been prepared in compliance with the guidelines set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (“**the JORC Code**”).

2.1 Nordic Iron Ore

NIO is a mining company aiming to reopen the main Ludvika mines - Blötberget and Håksberg, and resume iron ore production.

Deposits are located along an approximately 25 km long vein field of iron-rich deposits that run from Blötberget in the south to the north section of the Håksberg field. For the first time in history, this mineralised field is controlled by a single stakeholder, NIO, through a total of nine exploration permits and two mining concessions.

2.2 Terms of Reference

DMT has been retained by NIO to prepare a full technical report on the current status and development of the Blötberget Iron Ore Project. In order to fulfil the requirements of the technical report, an updated Mineral Resource Estimate is required in accordance with an internationally accepted Mineral Resource reporting code. This MRE will form a standalone report, extracts of which will be made available for inclusion in the final technical report.

The previous MRE for the Project was prepared by Thomas Lindholm (GeoVista AB) in January 2014, entitled ‘Technical Report: Blötberget – Mineral resource estimate’.

Since the issuance of this report, NIO has carried out a new drilling campaign at Blötberget, re-analysed a number of samples from historic drill core and carried out additional mineralogical and metallurgical analyses, thus marking a ‘material change’ in the status of the project. This Study will update the Mineral Resources to take account of the new data available.

2.3 Sources of Information

Initial site visits were carried out by DMT Principal Geologist , Mr Tim Horner CGeol P.Geo. on 14/08/2014 and 15/08/2015 in which the core storage and logging facilities in Grängesberg were inspected. Several drill sites were observed and some surface (historic open pit) locations were viewed where it was proposed to recover bulk sample material.

Discussions were held with senior technical personnel from NIO.

Mr Florian Lowicki Pr.Sci.Nat Geol. (400425/13; SACNASP), DMT's Resource Geologist, visited the NIO Ludvika site offices on five separate occasions between September 2014 and January 2015 to review the data acquisition procedures applied to the drilling programme and the database. Technical discussions relating to the on-site mineralogical testing and the geological model were held with Thomas Lindholm (GeoVista), Michael Setter and Emma Bäckström (NIO Geologists).

The individuals responsible for this report have extensive experience in estimating and evaluating mineral resources and are members in good standing of appropriate professional institutions and hence are Qualified Persons ("**QPs**") under the terms of JORC.

Neither DMT nor any of its employees and associates employed in the preparation of this report have any beneficial interest in NIO or in the assets of NIO. DMT will be paid a fee for this work in accordance with normal professional consulting practice.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 14 - References.

2.4 Units & List of Abbreviations

Units of measurement used in this report conform to the metric system. All currency in this report is stated in United States Dollars ("**USD**") unless otherwise noted.

Table 2-1 List of abbreviations

Abbrv.	Description	Abbrv.	Description
°	degrees	m^2	square metre
°c	degrees Celsius	m^3	cubic metre
%	percent	m^3/hr	cubic metres per hour
<	less than	m^3/t	cubic metres per tonne
>	greater than	Ma	million years
attrib.	attribute	mag	magnetite
BCM	bank cubic metres	magsus	magnetic susceptibility
BGU	Berg och Gruvundersökningar AB	masl	metres above sea level
CAPEX	capital expenditure	mm	millimetre
cm	centimetre	MOP	mine operation period
COG	cut-off grade	MRE	mineral resource estimate
Conc	concentrate	Mt	million metric tonnes
DGRF	definitive geomagnetic reference field	Mtpa	million metric tonnes per annum
DMT	DMT Consulting Limited	m/min	metres per minute
DMT	dry metric tonnes	m/s	metres per second
DSCO	drill core structure orientation	N	north
DTM	digital terrain model	NIO	Nordic Iron Ore
E	east	OK	ordinary kriging

Abbrv.	Description	Abbrv.	Description
EIA	environmental impact assessment	OPEX	operating expenditure
ESIA	environmental & social impact assessment	OREAS	Ore Research and Analysis Australia
EMP	environmental management plan	P	phosphorous
Fe	iron	QA/QC	quality assurance / quality control
FLY	Flygruvan	REE	rare earth element
g	gram	ROM	run of mine
Ga	billion years	RQD	rock quality designation
GPS	global positioning system	RTK	real time kinetic
ha	hectare	S	south
HCl	hydrochloric acid	S	sulphur
HUGFLY	Hugget-Flygruvan	SAND	Sandell
ICP-AES	inductively coupled plasma–atomic emission spectroscopy	SATMAGAN	saturation magnetisation analyser
IEC	International Electrotechnical Commission	SEK	Swedish Krona
IOCG	iron oxide copper gold (deposit)	SG	specific gravity
ISO	International Organisation for Standardisation	SGU	Swedish Geological Survey
JORC	Joint Ore Reserves Committee	SiO_2	silica dioxide
KALV	Kalvgruvan	SOP	standard operating procedure(s)
kg	kilogram	TGA	thermo gravimetric analyser
km	kilometre	t/m^3	tonnes per cubic metre
km^2	square kilometres	tonnes	metric tonnes
ktpa	kilo (1,000) metric tonnes per annum	ToR	terms of reference
kV	kilovolt	US$	United States Dollar
LIMS	low intensity magnetic separation	UV	ultra violet
LOI	loss on ignition	W	west
LOM	life of mine	XRF	x-ray fluorescence
m	metre		

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by DMT, for NIO.

The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to DMT at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by NIO and other third party sources.

For the purpose of this report, DMT has relied on ownership information provided by NIO. DMT has not researched property title or mineral rights for the Project and expresses no opinion as to the ownership status of the property.

4 PROPERTY DESCRIPTION & LOCATION

4.1 Location

The Blötberget Project is situated in Dalarna in central Sweden, approximately 500 m south east of the village of Blötberget, and near to the town of Ludvika. Sweden's largest city, Stockholm, is located to the South East, within driving distance along Route 66 and E18 (228 km). The country's second largest city, Göteborg, to the South West is within driving distance along Route 50 and E20 (400 km).

The Project region is known as the Bergslagen District, famous for its very long mining and steelmaking history, with notable former and current production areas within this region including the Grängesberg iron ore mine, Zinkgruvan sulphide mine, Garpenberg sulphide mine and Falun sulphide mine. Ludvika is located at the southern shore of Väsman lake at an elevation of around 157 m above sea level ("**masl**").

Figure 4-1 **Location Map**

Source: Google Maps

4.2 Land Tenure

The Blötberget area was historically divided into six fields based on the old mining concessions, namely:

- Kalvgruvan;
- Flygruvan;

- Betsta;
- Hugget;
- Sandell; and
- Guldkannan.

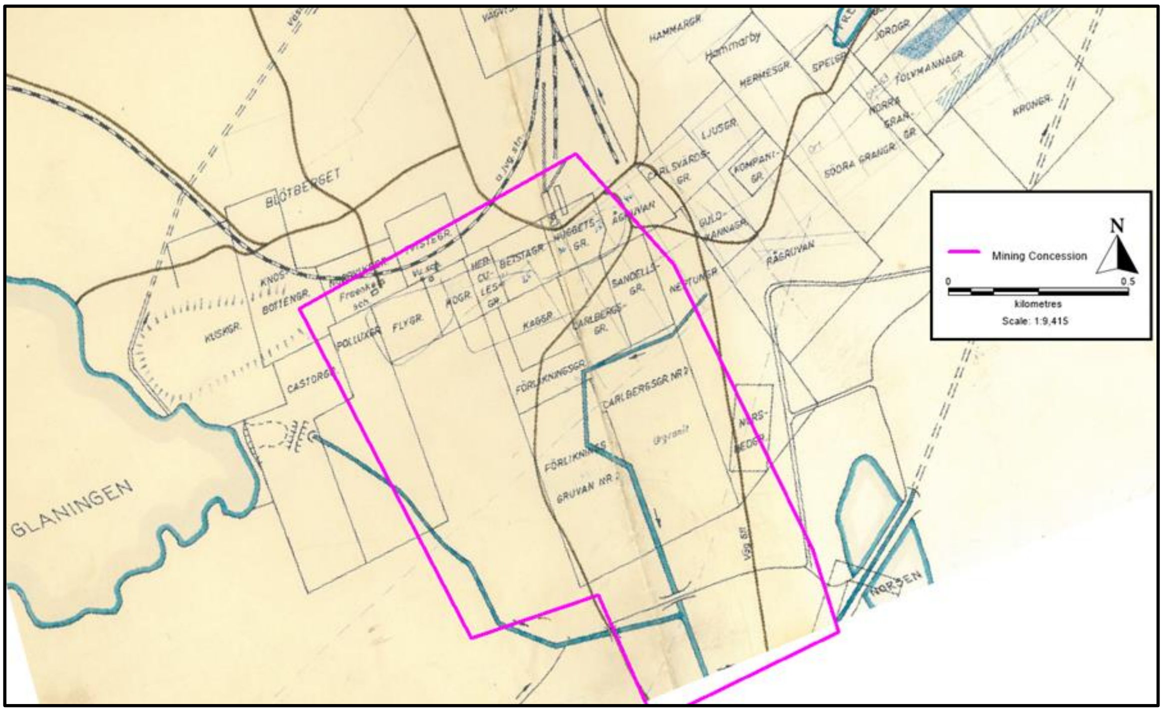


Figure 4-2 **Historical and current mining concessions - Blötberget**

Source: NIO

NIO currently holds 12 exploration permits, which together cover an area of 3,044.36 hectares (“**ha**”). NIO also holds two mining concessions - Blötbergsgruva K nr 1 and Håksbergsgruva K nr 1, covering an area of 262.7 ha. All areas, besides those covered by the Väsman concession and parts of the Håksberg concessions are so called “brownfield” sites and have previously been worked and contain abandoned mines.

NIO applied for a mining license within the Blötberget area in October 2010 and was granted an application by the Mining Inspectorate of Sweden in August 2011. The mining concession, which runs for 25 years with possibility of extension, implies the right of exploitation and utilisation of iron, rare earths, and apatite. The environmental permit for this concession was granted in late June 2014. The licence locations and descriptions are shown in Table 4-1 and Figure 4-3.

In addition to the one exploitation concession, NIO has four exploration licenses within the Blötberget area.

Table 4-1 Mining and Surface Licences

Deposit / Area	Concession / Licence Number	Expiration Date	Area ha	Concession / Licence Points	Northing SWEREF99 TM	Easting SWEREF99 TM
Blötbergsgruva K nr 1	2010001141	30/08/2036	126.4	Mining concession for Iron, Apatite and Lanthanum	6664955.321	503339.990
Blötberget nr 1	2007000066	29/05/2015	255.85	Exploration concession for Iron	503218.911	6665117.675
Blötberget nr 2	2007000114	07/06/2015	421.25	Exploration concession for Iron	502770.639	6664721.268
Blötberget nr 3	2010000564	16/06/2015	215.7	Exploration concession for Iron	501545.841	6664697.950
Främundsberget nr 1	2008000970	25/09/2015	156.03	Exploration concession for Iron	504658.801	6665047.721

Source: NIO

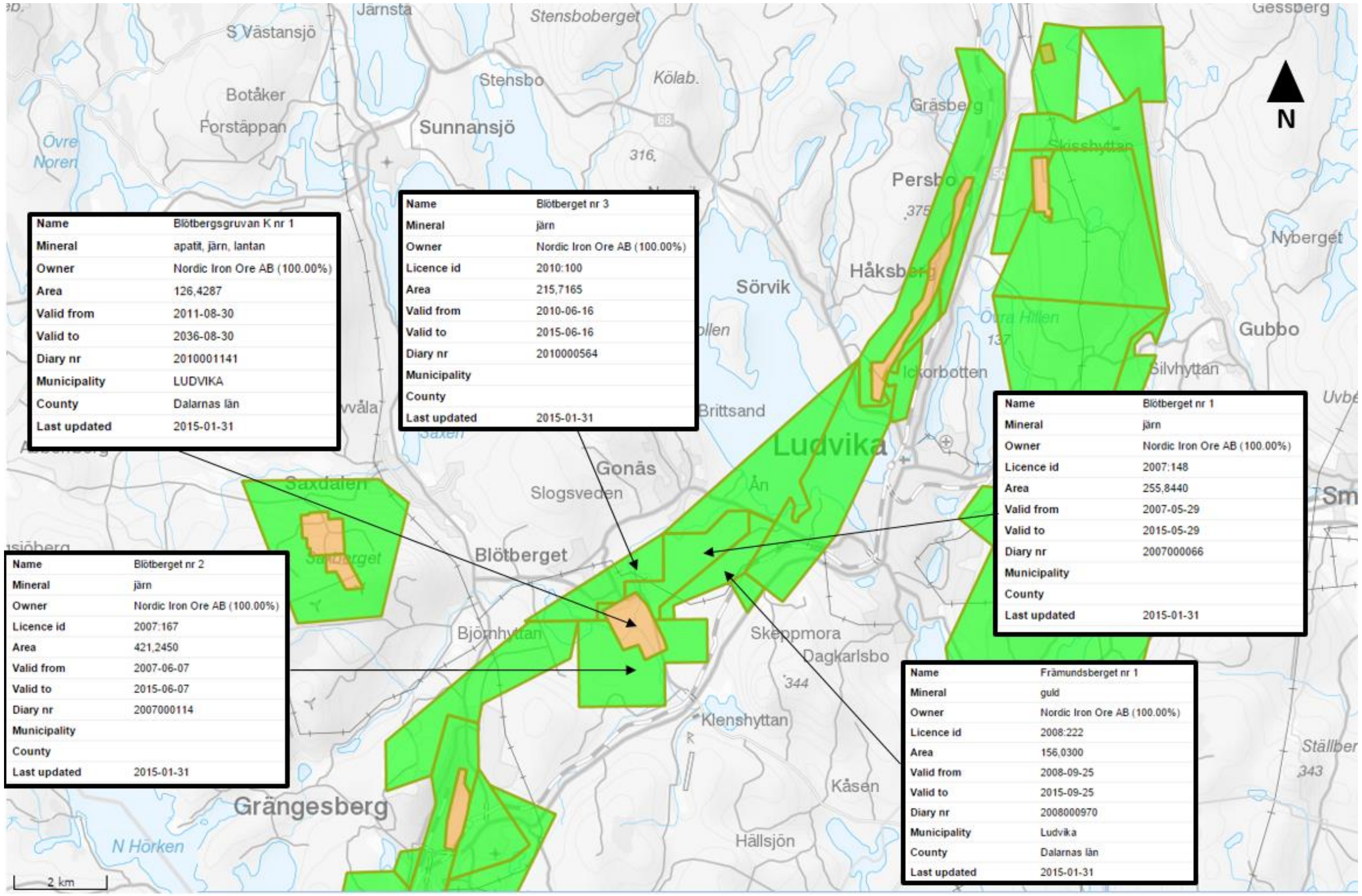


Figure 4-3 Licences Map

Source: NIO

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

5.1 Accessibility

Blötberget is located 2.5 km west of Route 50 and is directly accessible along well maintained asphalt roads.

5.2 Climate

The climate at the Project is classified as cold and temperate (sub-arctic or boreal), characterised by short, cool summers and long cold winters.

There is significant precipitation throughout the year, with an average annual precipitation of 713 mm. The driest month is March with an average of 35 mm of precipitation. Most precipitation falls in August, with an average of 87 mm for the month.

The average annual temperature is around 4.6 °C. The warmest month of the year is July with an average temperature of 16.1 °C. The coldest month is February, when the average temperature is -5.6 °C. The average temperature fluctuation throughout the year is 21.7 °C.

The cold climate at the Project site has the potential, but is unlikely to, affect surface operations during the winter months, should the mine become operational.

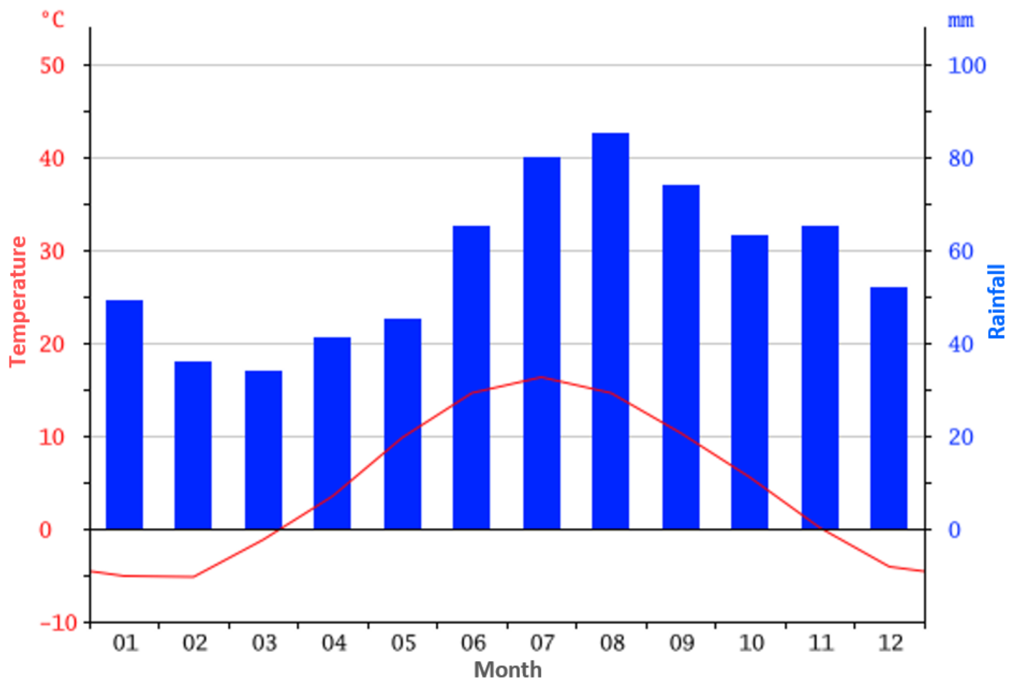


Figure 5-1 Climate data (Ludvika)

Source: http://en.climate-data.org

5.3 Local Resources

The closest large town to Blötberget is Ludvika, which is located 6 km north east along Route 50. Ludvika has a population of approximately 14,500 and population density of 15.5/km^2 as of 2012 (*Urbistat.it, 2015*). Ludvika offers general services including medical care, telecommunications, banking, housing, hotels, vehicle repair and schooling.

The local community has a 7.8 % unemployment rate, lower than the Swedish average of 8.0 % (*Ekonomifakta, 2014*). The multinational engineering company ABB has manufacturing facilities in Ludvika for power transformers, capacitors and equipment for power transmission. ABB, as well as Sandvik and Atlas Copco are major employers in the area.

5.4 Infrastructure

5.4.1 Road

The national highway, Route 50, which runs north-south, passes close to the Project.

5.4.2 Rail

Blötberget does not have its own railway station, however the main line lies adjacent to the Project. This line is the main Northern Swedish railway from Gothenburg to Gävle which primarily runs parallel to route 50. There is also a railway station in Grängesberg, 9.7 km to the South West of Blötberget.

The railway that passes through Ludvika and close by the Project, offers connections to three port towns/cities namely; Gävle (180 km) and Oxelösund (270 km) at the Baltic Sea and Lysekil (410 km) on the Swedish west coast.

5.4.3 Air

The nearest airport with domestic flights to and from Arlanda International Airport is Dala Airport, located in the neighbouring town Borlänge, approximately 55 km northeast of Ludvika.

5.4.4 Power

The electrical power required for mining and milling operations will be sourced from the main power line (50 kV), operated by VB-Kraft, which lies approximately 1 km from Blötberget, but passes into the planned industrial area.

5.4.5 Water

Water for the industrial areas and process plant can be sourced from nearby lakes.

5.5 Physiography

The Project is located in an area dominated by arboreal forest.

In general, the local terrain consists of gently undulating hills, except for the area around Blötberget, which is predominantly flat and marshy. The elevation in the Project area varies between 150 and 250 masl.

5.6 Surface Rights

The agreements fully in place are those with the landowner of the water rights for the mine (for dewatering), necessary before the mining concession rights are granted.

Access has been agreed with the landowner to allow the building of the sedimentation ponds, required for dewatering.

Currently, NIO does not have final agreement for all the industrial areas or the tailings dams. However, discussions and agreements are pending commitments for further investment and advancement of the Project.

Importantly, all the arrangements for the development of the project and the surface rights are now covered by the Mining Laws. In the event of disputes, the Government representatives of the mining law can either arbitrate an agreement or, in extreme cases, expropriation can be enforced if agreement cannot be achieved through negotiations.

6 HISTORY

6.1 Previous Ownership

Mining and exploration in the Ludvika area has been carried out in different periods since the 1600's. The majority of this small scale mining was focused on iron production.

Blötberget originally operated as two separate mines from the early 1900s, the German owned Vulcanus "original" mine and the Swedish owned Blötberget "new" mine. Each operated with separate hoisting shafts between 1950 and 1966.

Blötberget started operations in 1944 by sinking the new shaft to the 300 m level and building the new Central Plant. After the Second World War, in 1949, the Vulcanus mine regained Swedish ownership under Stora Kopparberg and continued production until the mine closed in 1979. Since the mine closed in 1979, the deposit has been controlled by several companies through exploration concessions, until NIO was formed in 2008.

1900	Bergverks AB Vulcanus starts large-scale mining operations
1944	Stora Kopparberg Bergslags AB begins preparations for mining in the nearby mining district. The Bergslag shaft (BS) is sunk and the modern industrial site is established
1949	SStora Kopparberg Bergslags AB buys the Vulcanus mine from Flyktkapitalbyrån (Flight Capital Agency)
1950–1966	The mining area is integrated, both the Vulcanus mine and Bergslag shafts are utilised. Annual production reaches about 400 kilo tonnes of crude ore and 220 kilo tonnes of dressed ore products
1968–1975	The BS shaft is sunk to the 570 metre level, the BS ore skip is upgraded to an annual capacity of 600 kilo tonnes and the new plant comes into operation in December 1975
1978	SSAB is formed and Stora Kopparberg Bergslags AB hands over the Blötberget mine
1979	Mining operations cease
1980	Permits and mining rights are returned to the state
2007	New exploration permits are applied for and awarded
2008	**The permits are transferred to Nordic Iron Ore**

Figure 6-1 History of Blötberget

Source: www.nordicironore.se

Figure 6-2 **Historic workings (for Section A-B see Figure 6-6)**

Source: NIO

6.2 Exploration

6.2.1 Airborne Geophysical Surveys

The Geological Survey of Sweden ("**SGU**") performed regional airborne geophysical surveys over the area. In the 1960's, an airborne magnetometry and gamma spectrometry survey was completed. This was carried out with 250 m line spacing at a height of 30 to 60 m. The resultant map shows measured variations in the magnetic total field after the Earth's magnetic reference field (DGRF 1965.0) was subtracted. . The map provides information on lithological variations and structures in the bedrock at the surface and at depth. Shifts in anomaly pattern can detect faults and their relative movements. The information has been used for geological mapping and prospecting, and is particularly useful in areas where large parts of the bedrock is covered by soft soils and water, a common occurrence in this part of southern Sweden. The information is stored in the SGU database.

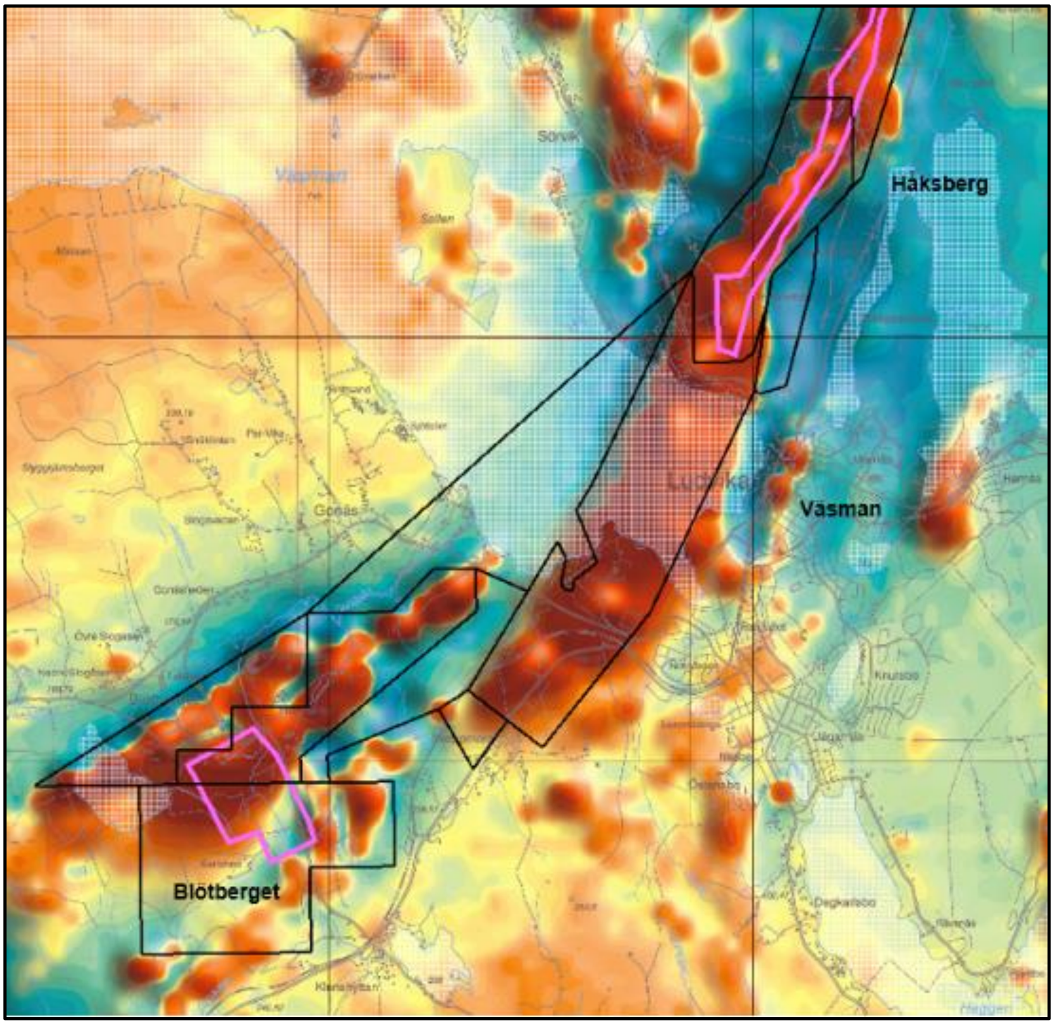


Figure 6-3 **SGU airborne geophysical survey**

Source: NIO

6.2.2 Ground Geophysical Surveys

A ground magnetic anomaly survey of the Vulcanus and Blötberget project areas was conducted in 1950 by ABEM geophysics, on behalf of Stora Kopparberg. The results of this survey assisted in focussing historical drilling campaigns.

In 1967 Terratest (now owned by ABEM) reinterpreted the existing data, as illustrated in Figure 6-4.

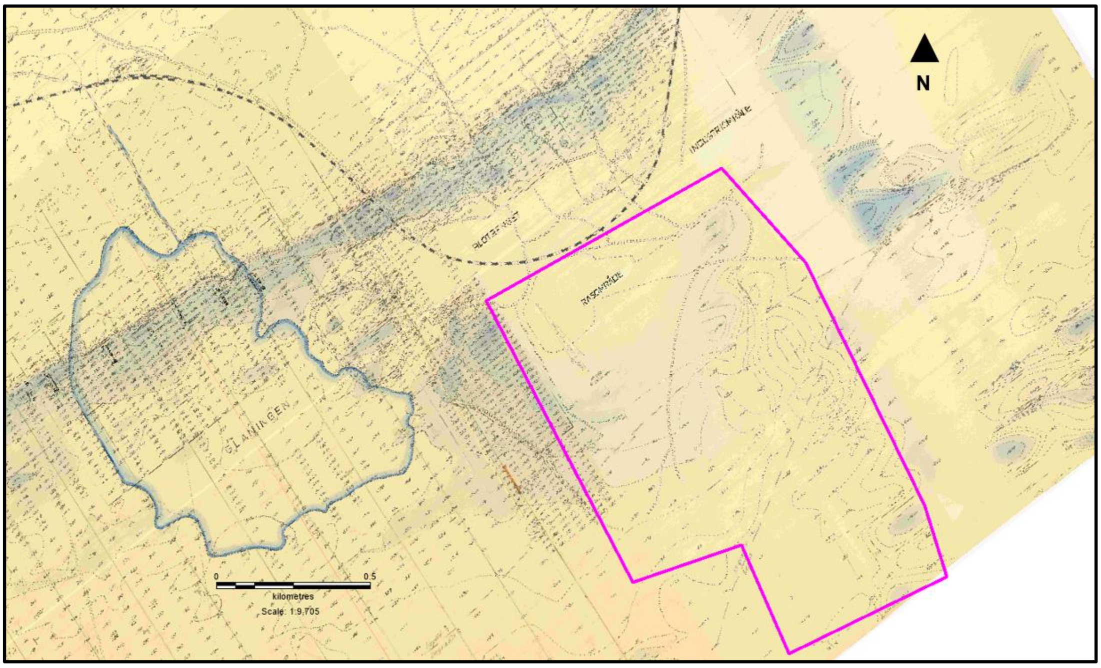


Figure 6-4 **Terratest magnetic anomaly map showing current mining concession**

Source: NIO

6.2.3 Historical Drilling

From 1942 until 1977, the deposits were systematically diamond drilled for definition and extension.

In areas where mining was on-going or planned, regular drillhole fans, spaced 30 m apart, were drilled from underground positions in drifts. Deeper parts of the deposits were investigated with wider spaced drilling (~100 m). Most of the drillholes (~80 %) are collared underground in both the hanging and footwalls, and in some cases, mineralised zones. All of these drillholes had varying dips and azimuths. Only the drillholes probing the deeper, down dip parts of the deposit, were drilled from the surface.

The deeper drillholes, drilled in the late 1960's and early 1970's, were initially drilled with 52 mm core with step down to 32mm core and then 22mm core in the deeper parts of the hole. Drilling has been carried out in the past by contractors as well as by the mining companies themselves.

A total of 391 drillholes have been drilled historically at Blötberget, totalling 32,751 m.

All digitised historical drillholes either have locations and surveys in mine maps, or in supplementary documentation. Where possible, collars have been located in the field and verified by NIO.

Average recoveries for these drillholes have not been recorded. In the majority of cases when re-logging of the available historical cores using current standard procedures was carried out, it was noted that most core loss was not recorded. In cases where it had been recorded, it was often not mentioned in the accompanying geological log and only on the actual core box. NIO does not have access to many of the historical cores as they have either been destroyed or not yet located. Daily drilling reports and hole status reports were historically not used or they have been mislaid or destroyed.

Mine maps and historical drilling data have been collected from various sources (including the Mining Inspectorate, a division of SGU) and digitised where possible. Drill core from historical exploration drilling in the Blötberget project area has been recovered at the core storage facility at the SGU in Malå, along with additional drill core found in buildings on the former mine sites.

In total, 45 drillholes from Blötberget were found in Malå and 15 at the former mine storage facility in Håksberg. 41 of these holes (6,884.83 m) have been re-logged, 1,047.75 m of mineralised material has been re-sampled and re-assayed according to current best industry practice and standards. This included mineralised core that had not been sampled historically as it was considered too low grade when assessed visually. Approximately 5-10 m mineralised core was sampled adjoining the historical sampled sections.

Figure 6-5 **Typical condition of recovered historical core and core boxes**

Source: NIO

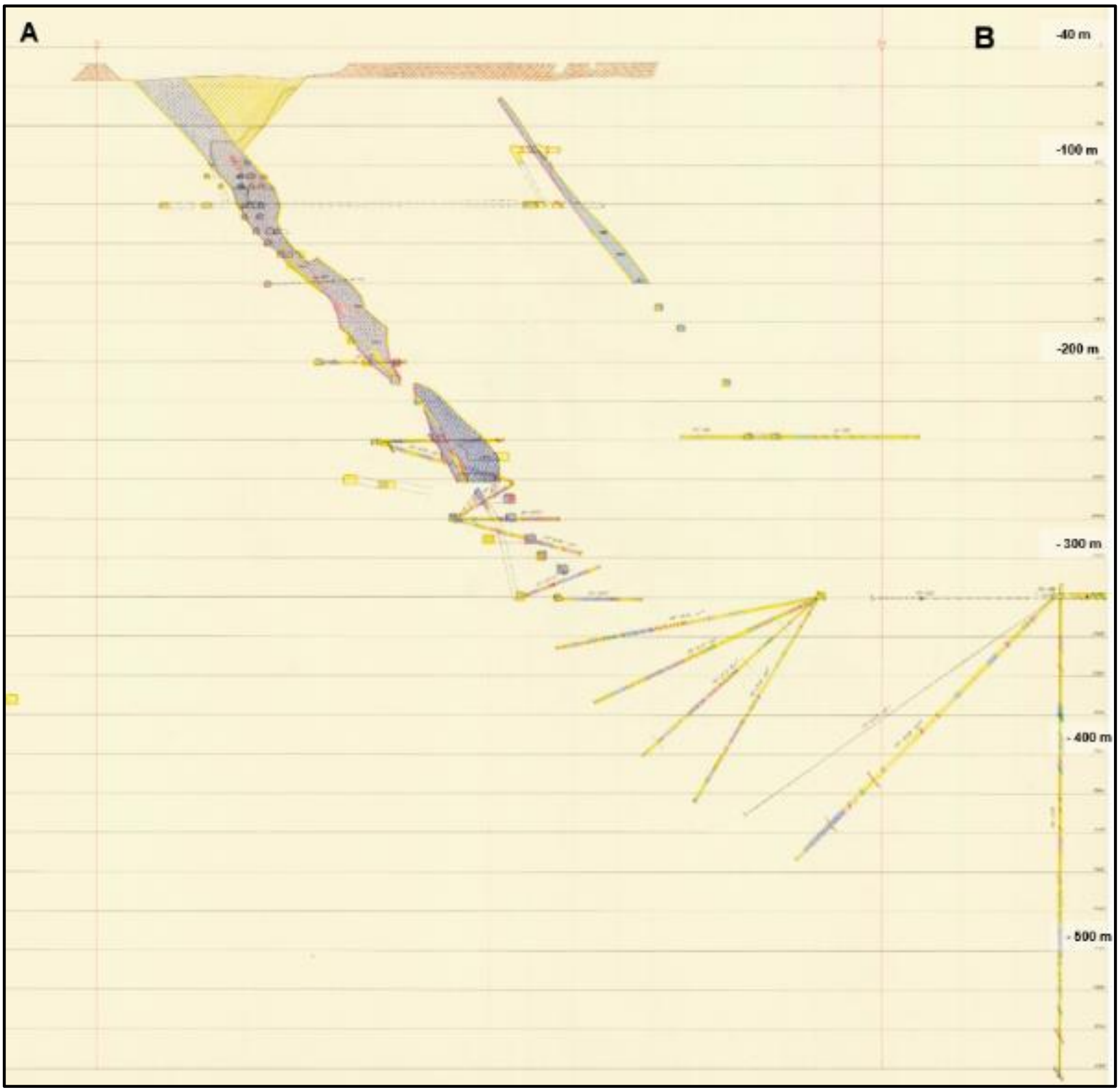


Figure 6-6 **Cross section showing old workings and delineation drilling**

Source: NIO

6.2.3.1 Downhole Geophysics & Survey

Most of the deeper drillholes, drilled in the late 1960's and early 1970's, to investigate the depth extension of the iron ore zone, were logged with a magnetometer as well as deviation surveyed by Terratest AB.

Historically, only holes longer than 150-200 m were surveyed for deviation on a regular basis. To date, NIO has only been able to locate downhole deviation survey records for holes drilled from surface. These records have been entered into the database and some have been reconstructed from trace plots of the respective holes.

6.3 Historical Estimates

The mining company, Stora Kopparbergs Bergslags AB submitted a closure report to the Inspector of Mines at the cessation of mining activities in 1979. The ‘reserves’ (non-compliant) were estimated to be 25 Mt at an average grade of 43.5 % Fe.

6.4 Historical Production

The final production capacities achieved in 1979 at Blötberget was 400 Ktpa (thousand tonnes per annum).

Operations ceased in June 1979. A total of 19 Mt of material, averaging 37 % Fe Total, 0.55 – 0.8 % P and <0.01 % S, was reportedly extracted.

The information in the tables below was extracted from reports given to “Bergmästarämbetet”, Falun between the years 1973 and 1979. Figures for 1979 are up until the end of June (six months), as this is when the mine closed.

Table 6-1 Historic feed and processed grades

Year	Feed % Fe	Magnetite Concentrate				Hematite Concentrate				Fe-Recovery %
		w %	Assay			W %	Assay			
			% Fe	% SiO_2	% P		% Fe	% SiO_2	% P	
1973	37.2	23.2	68.2	2.9	0.1	25.9	60.9	6.8	0.48	85.6
1974	37.3	22.9	68.3	2.66	0.11	25.6	60.2	6.85	0.56	85.4
1975	35.7	20.4	67.5	2.4	0.11	24.4	59.9	7.52	0.57	80.4
1976	37.1	14.8	67.4	3.87	0.07	28.9	61.1	6.71	0,50	76.3
1977	37.1	22,4	67.2	3.06	0.09	25.7	61.3	5.91	0,54	83
1978	34.5	18.2	68	2.93	0.1	25.5	61.7	5.93	0,46	83
1979	34.5	18,5	68.5	2.93	0.06	27,4	61.7	5.93	0,35	83
Average (excl. 1979)	**36.5**	**20.3**	**67.8**	**2.97**	**0.1**	**26**	**60.9**	**6.62**	**0.52**	**82.3**

Source: NIO

Table 6-2 Combined historic processed grades

Year	Combined Magnetite-Hematite Conc. (calculated)				
	W %	% Fe	% P	Proportion magnetite	Proportion hematite
1973	49,1	64,3	0,30	47,3	52,7
1974	48,5	64,0	0,35	47,2	52,8
1975	44,8	63,4	0,36	45,5	54,5
1976	43,7	63,2	0,35	33,9	66,1
1977	48,1	64,0	0,33	46,6	53,4
1978	43,7	64,3	0,31	41,6	58,4
1979	45,9	64,4	0,23	40,3	59,7
Average (excl. 1979)	**46,3**	**63,9**	**0,33**	**43,7**	**56,3**

Source: NIO

Note: Production between 1973 and 1979 was from the Hugget and Betsta deposits

The process plant handled up to a maximum of 415,000 tonnes of feed material per annum. This maximum was achieved in 1976 when an additional shift was added, increasing the operational time from 5,058 to 5,824 hours (66% utilisation grade).

To summarise the figures in the table (excl. 1979):

- Feed Fe varied between 34.5 and 37.3 %
- Fe grade in magnetite concentrate is quite consistent: 67.2 and 68.3 % (Δ 1.1)
- Fe grade in hematite concentrate varies between 59.9 and 61.7 % (Δ 1.8)
- P-grade variation in magnetite concentrate from 0.07 to 0.11 %P
- P-grade variation in hematite concentrate from 0.46 to 0.57 %P
- Proportion of magnetite and hematite concentrate has varied from 35:65 to 50:50 (rounded figures) over the six year period 1973 to 1978. (Avr.= 44:56)
- Fe-recovery has varied between 76.3 and 85.6 %

Tests were carried out with the SALA HGMS in 1976 which showed that P-grade in hematite concentrate could be decreased to 0.22-0.27 % P without grinding and to 0.12-0.14 % P with grinding. No further details are known.

The magnetite primary concentrate was reground and passed to a second stage of LIMS (to reduce P).

In 1978, a decision was taken to stop mining of the Sandell magnetite ore body due to high content of phosphorus combined with the need for fine grinding

Large changes in the proportion of magnetite/hematite concentrate are noted in the production over the five year period ahead of closure in 1979, and reflect the variability of the ore composition with respect to hematite and magnetite.

The recovery has varied between 76.3 to 85.6%. Mineral recovery appears to be greater when magnetite percentages are higher.

6.5 Adjacent Properties

Within a couple of kilometres northeast of Blötberget there are three smaller abandoned underground mines, namely:

- Frädmundsberg (mined up to 1944);
- Gonäs (mined up to 1919)
- Våghalsen/Finnäset (mined up to 1919)

The old workings at Finnäset became the investigation centre for the Väsman deposit, with a shaft sunk to 280 m.

Adjacent to the Våghalsen/Finnäset area, and located under Väsman Lake in the direction of Håksberg, lies the Väsman exploration target. This has previously been investigated via an exploration drift at the 300 m level, driven from a separate shaft at Finnäset.

7 GEOLOGICAL SETTING & MINERALISATION

7.1 Regional Geology

Regional geological maps over the area have been published by the SGU. Publications include a colour version of map sheet Ludvika AF158, 1:50 000 (1986), a more detailed map in scale 1:50 000 (2005).

The Blötberget apatite-iron oxide deposit is located in the western part of the intensely mineralised Paleoproterozoic Bergslagen Province ("**the Province**") in south central Sweden.

The Province is volumetrically dominated by several generations of intrusive rocks, which enclose inliers of metasedimentary and metavolcanic rocks. The Province has been described as being an extensional, continental back-arc, magmatic example. The metasedimentary and metavolcanic inliers are of great importance as they host an overwhelming majority of the more than 6,000 known metallic mineral deposits and prospects in the Province.

These rocks have been subjected to multiple-phase deformation and metamorphism under mainly greenschist to amphibolites facies conditions. Pre-Svecofennian rocks are not exposed but various isotopic, petrogenetic, and trace element studies of supracrustal rocks imply that an older Proterozoic, possibly in part Archaean, felsic basement underlies the western part of the Province.

The deposits in the neighbouring area occur along a ~40 km long, broad zone This zone of mineralisation is the third largest iron ore deposit in Sweden by production, only outnumbered by the giant Kirunavaara and Malmberget iron ores in Norrbotten, northern Sweden.

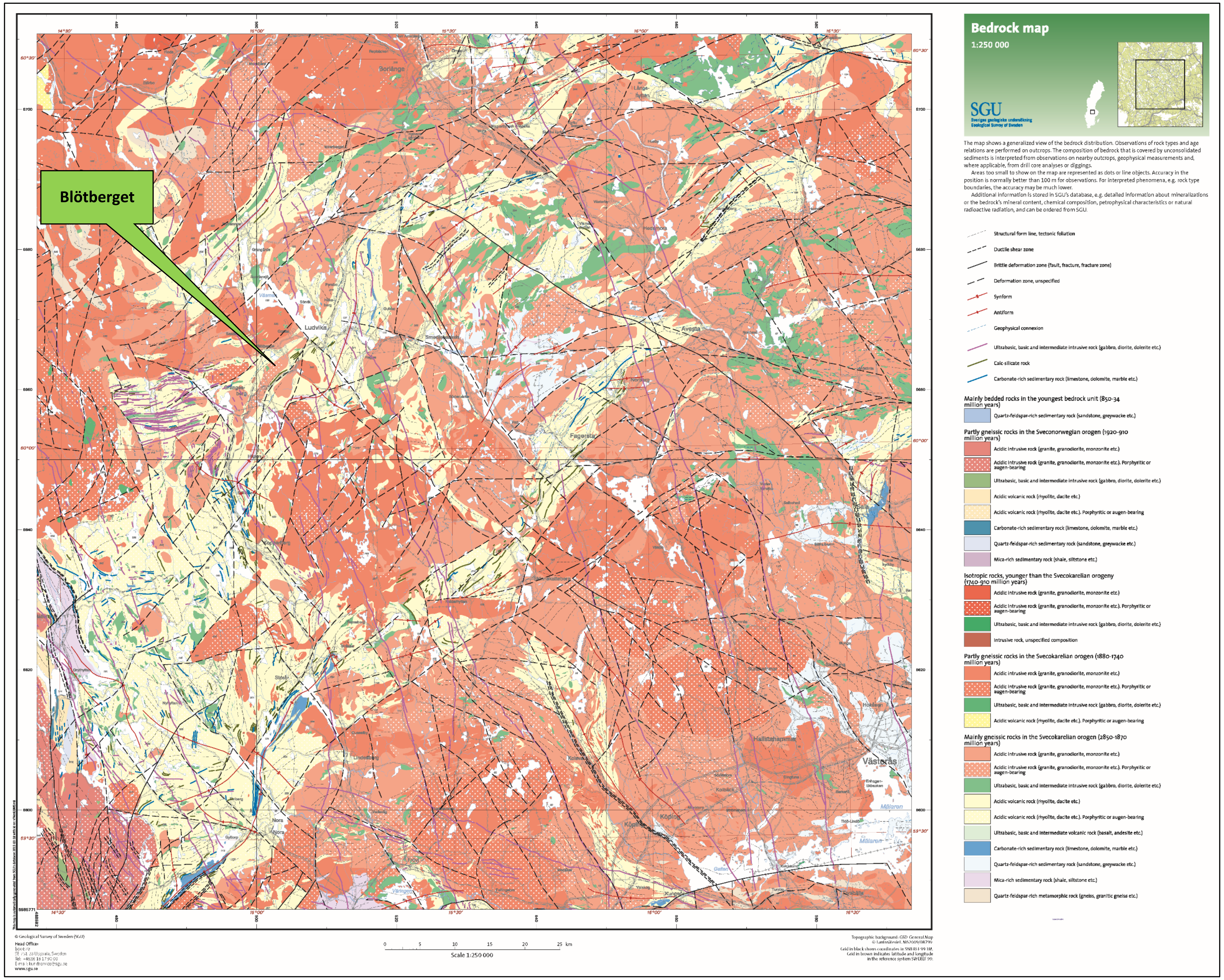


Figure 7-1 **Regional geology map**

Source: Swedish Geological Survey

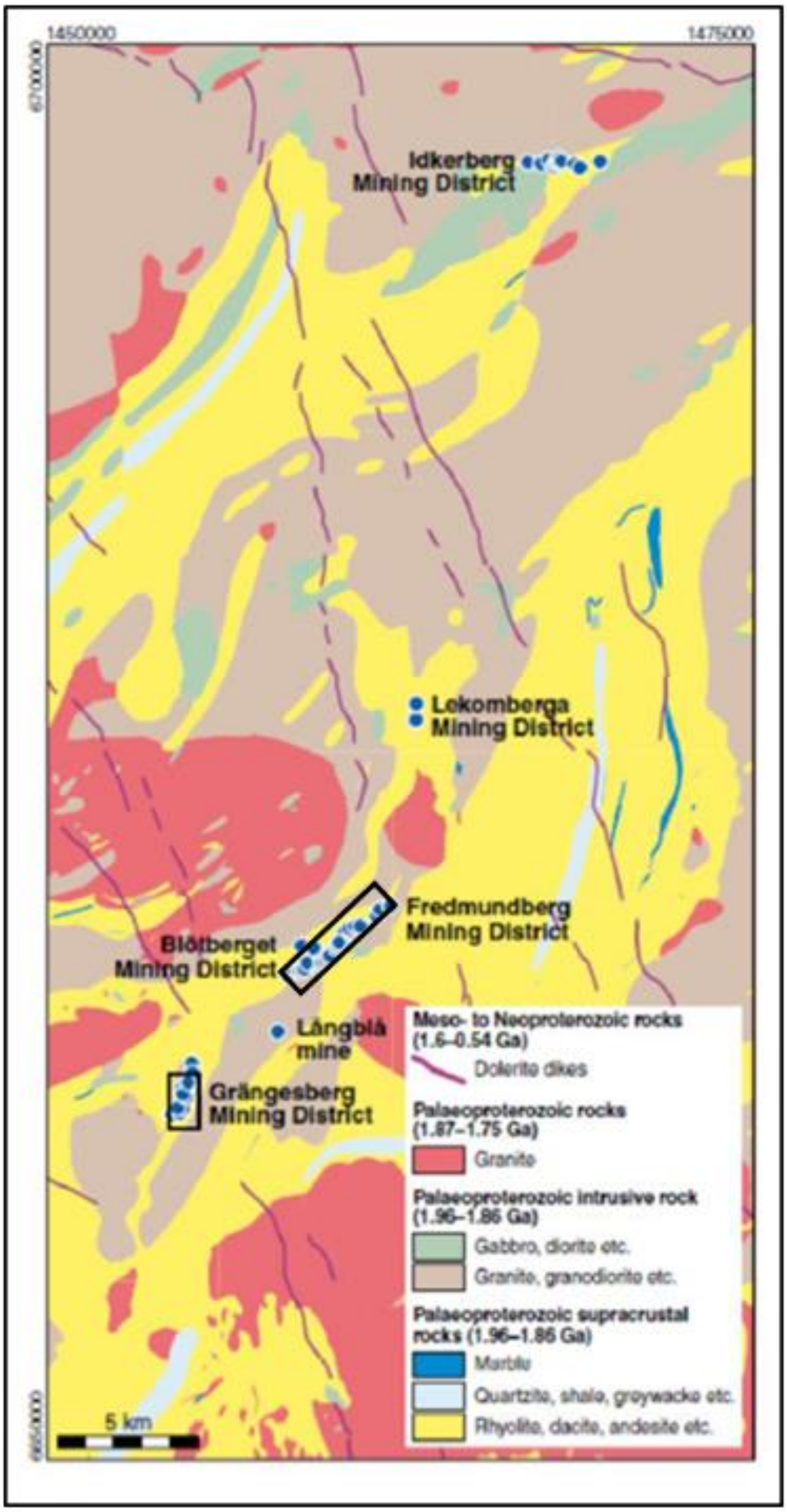


Figure 7-2 **Geological map of part of Western Bergslagen**

Source: Stephens et al (2007)

7.2 Property (Local) Geology

The mineralised zone at Blötberget appears as a set of vertically narrow, elongated lenses dipping 50°–70° to the SE. Airborne geophysical surveys and historical drillholes indicate that mineralisation extends to a depth of at least 900 m below surface.

The host rocks to the Blötberget iron mineralisation have traditionally been classified as belonging to the ”leptite formation”, i.e. mainly felsic to, more rarely, intermediate, regionally metamorphosed (c. 1.90–1.87 Ga) volcanic rocks. In most parts of the Bergslagen ore province these leptites are predominantly SiO_2-rich and have mainly rhyolitic to dacitic compositions, yet, the immediate host rocks to Blötberget ores exhibit significantly more of intermediate to basic compositions. The metavolcanic rocks are locally feldspar-porphyritic, fine-grained and generally range between rhyolitic-dacitic to basaltic/andesitic in composition. A number of the observed leptites within Blötberget area, particularly in the mining concession, also exhibit crosscutting relations to various rock units and have been interpreted as subvolcanic in origin.

Alteration is evident in these host rocks, both in the form of regional-style sodic or potassic alteration and locally, as disseminated as well as discrete phyllosilicate (mainly biotite + chlorite) and amphibole-rich zones. These alteration assemblages systematically occur in and around the main ore zone.

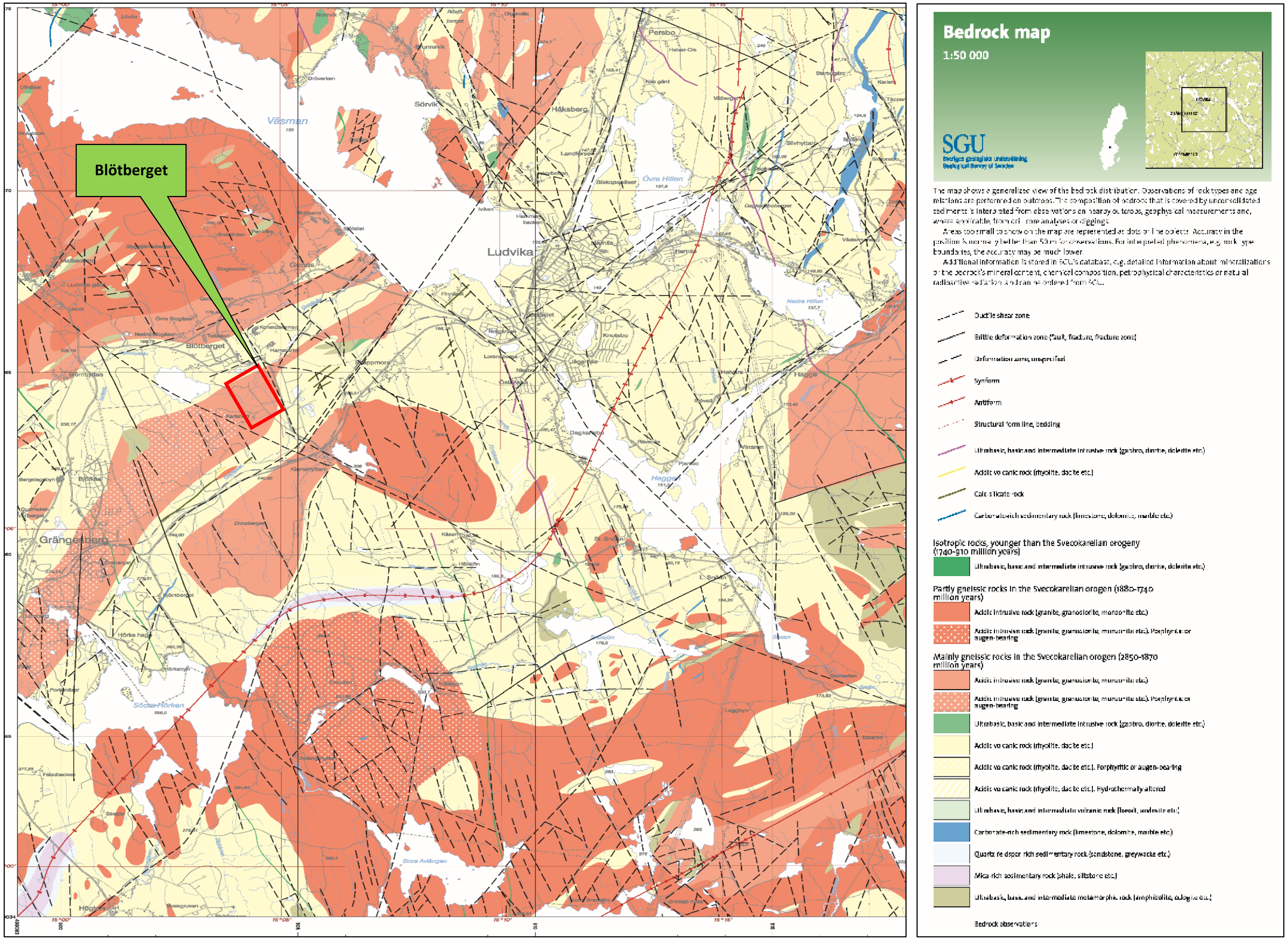


Figure 7-3 Local geology map

Source: Swedish Geological Survey

7.3 Mineralisation

The mineralisation at Blötberget is a so-called "apatite lake ore" which, besides the iron mineral magnetite and hematite, also contains the phosphorus mineral apatite, which previously caused problems in the production of iron. With the technological developments that occurred when the so-called Thomas process was invented in 1879, it became possible to also take advantage of ore that was rich in phosphorus.

The Blötberget field consists of five mineralised bodies, from west to east, these are identified in Table 7-1.

Table 7-1 Mineralisation zones

Mineralised Body	Short Form Name	Mineralisation
Kalvgruvan	KALV	apatite-rich magnetite
Flygruvan	FLY	apatite-rich, hematite-dominated, minor magnetite
Hugget & Betstamalmen	HUG & ‘Betsta’ or ‘the Wedge’	Apatite-rich magnetite-hematite
Sandellmalmen	‘Sandell’- SAND	Apatite-rich magnetite

Source: NIO

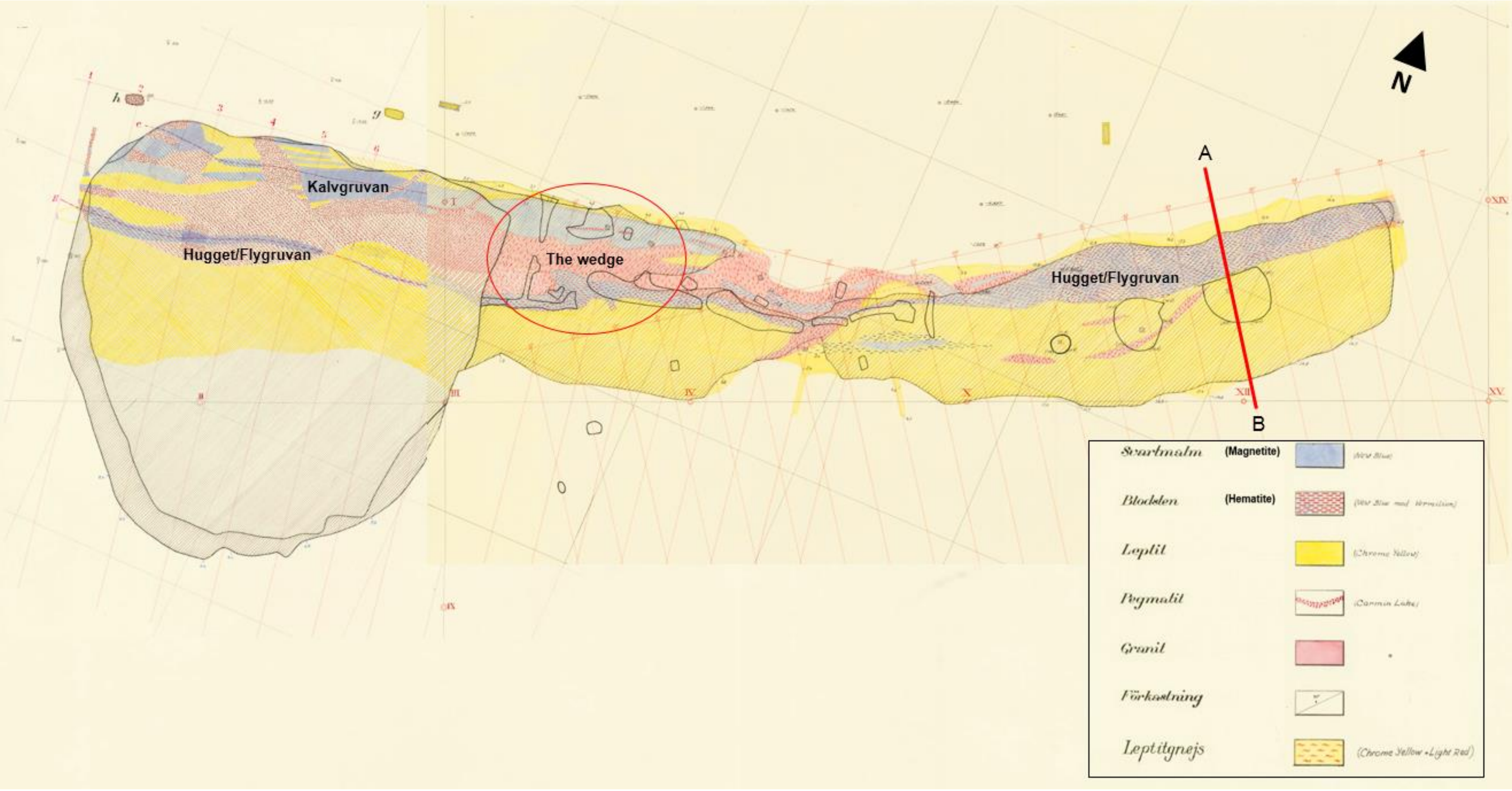


Figure 7-4 **Plan Location of mineralised zones**

Source: NIO

The Hugget/Flygruvan and Kalvgruvan zones had previously been mined down from near-surface to the 250 m and 350 m levels respectively. The units dip towards the southeast at between 50° and 55° in the near-surface mined-out areas, and flatten at depth to ~25°.

The area, previously known as 'the Wedge' or Betsta, was an unknown area between the two former mining concessions, Vulcanus and Blötberget. The Wedge was successfully explored during the 2014 drilling programme.

Kalvgruvan and Hugget/Flygruvan have now been shown to be continuous zones of mineralisation Figure 7-4.

8 DEPOSIT TYPE

The Blötberget deposit and its NNE continuation to Idkerberget constitute an anomaly in the Bergslagen Province. Of the >6000 deposits in the Province, registered in the SGU mineral deposits database, 5500 are iron oxide deposits. Of these, most are either banded iron formations or skarn-type deposits, except those in the spatially restricted Grängesberg-Blötberget-Idkerberget area.

The Blötberget deposit and its northern extension to Idkerberget thus represent a significant ore genesis and geological anomaly in the Province. Based on the mineralogy, deposit geometry, host rock relations and geochemical character, it is evident that the Blötberget apatite-iron oxide deposits represent Paleoproterozoic Kiruna-type deposits that have been deformed and metamorphosed to amphibolite-facies grade.

The similarities with the Kiruna deposits were acknowledged early, but hypotheses concerning the origin of these ores have varied over time, from direct magmatic, exhalative sedimentary to hydrothermal and metasomatic. Two main hypotheses on the origin of apatite-iron oxide ores have dominated the discussions during recent years, namely:

- Hydrothermal or orthomagmatic origin i.e. formed directly from a melt.
- Direct-magmatic origin, noted through several textural similarities between the Kiruna deposit and the much younger apatite-iron oxide ore at El Laco in Chile.

The magmatic model was challenged by Sillitoe & Burrows (2002), and a theory for a hydrothermal replacement process was proposed in its place. This was subsequently rejected based on the magmatic textures and relationships between apatite iron boulders and the host-rock. However, a hydrothermal origin for other apatite-iron oxide ore deposits was proposed.

A comparative study of different apatite-iron oxide ore deposits in North America was completed and suggested that these deposits, characterised with respect to age, tectonic setting, mineralogy and alteration, ought to be referred to as Iron oxide-copper-uranium-gold-REE deposits. These were later to be called Iron Oxide Copper Gold (“**IOCG**”) deposits. The deposits of Kiruna-type were considered a sub-set within this IOCG concept, and a primary, shallow-level, hydrothermal origin has been suggested.

The IOCG concept marked the onset of an exploration frenzy for these deposits and subsequently more research has been conducted.

It has been shown that there is great variation between different possible IOCG occurrences, tentatively related to different ore forming processes. The trace element composition in apatite from the Tjårrojåkka deposit in Norrbotten for instance, is very different compared to other IOCG deposits and the question remains whether Kirunavaara should be considered an IOCG type deposit at all. This statement is also valid for the Blötberget deposit, as it does not contain any significant concentrations of either gold or copper, which perhaps emphasizes its similarity with the Kirunavaara ore. Indeed, the concept of an orthomagmatic origin for the Kiruna-type deposits suggest they are "non-IOCG" (*Nilsson et al. 2013*)

Besides iron and apatite being present in these rocks, there are significant accumulations of rare earth elements ("**REEs**") and phosphorous (*Nilsson et al. 2013*).

9 EXPLORATION

Since the formation of NIO, several surface sampling campaigns have taken place. The majority of these have been within the mining concession areas but some have extended to include the surrounding exploration licence in order to allow a better understanding of the geochemical relationship between the satellite deposits and the main Blötberget mineralised zone. This work assisted with the realisation of potential sites for a bulk sample/test mining site. A handheld magnetic susceptibility (KT-10) device and a Thermo Niton x-ray fluorescence ("**XRF**") XL3 were used to ascertain iron and magnetite percentages of outcrop samples. Rock samples were then sent to ALS for chemical assay.

During 2009, Kopparberg Mineral AB carried out a more detailed magnetometry survey over a limited part of the Blötberget area on behalf of NIO (Figure 9-1).

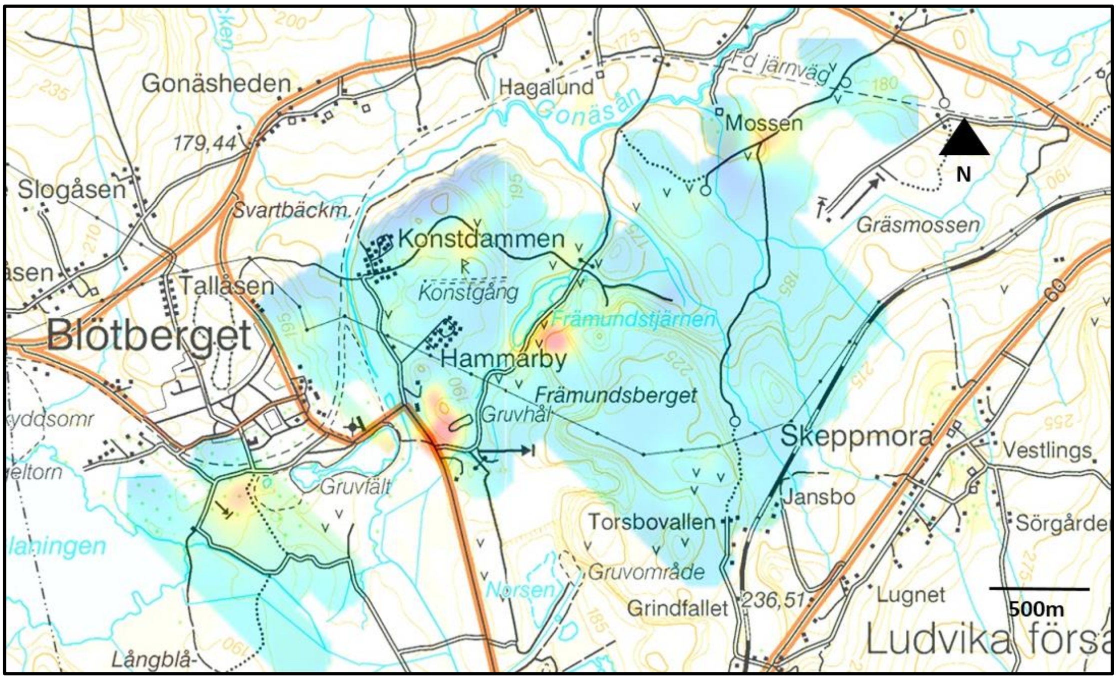


Figure 9-1 **Ground magnetic anomaly map (November 2009)**

Source: NIO

10 DRILLING

10.1 2012 Drill Programme

A drilling programme was undertaken during the summer and winter of 2012 and was completed in November 2012. This 16 hole programme included twinned drilling to confirm the quality of historical drilling data, as well as infill and step-out drilling.

NIO completed 16 drillholes totalling 7,430 m of drilling. The NIO drilling in 2012 was carried out by the Swedish contractor, Drillcon Core AB, or by their Finnish subsidiary Suomen Malmi Oy (“**SMOY**”) using Onram 1000 and Onram 1500 drill rigs and wireline 56 methodology, the programme recovered 39 mm diameter drill core.

One hole, BB12015-MET, was drilled for the purposes of generating material for metallurgical sampling, using HQ-size equipment to recover 63.5 mm diameter core. To date, this has been the only hole drilled using oriented core.

No drillholes were water pressure tested during this drilling campaign.

Three holes were left uncompleted as they hit highly fractured and clay altered rock which collapsed the drillhole. These holes were BB12003 (@ 400 m), BB12012B (@ 810 m) - BB12012 was a re-drill of this hole - and BB12014-MET (@ 30 m). No mineralisation was encountered in these holes.

Several deviations from the planned targets occurred during this drilling campaign, due largely to the small drill equipment and small drill diameter used.

Figure 10-1 **SMOY drilling rig (2012 drill programme)**

Source: NIO

Table 10-1 2012 NIO drill programme summary

Hole ID	Collar X	Collar Y	Collar Z	Depth m	Azimuth °	Dip °	Completed	Orientation	Water pressure
BB12001	504478.89	6664648.45	-46.85	680.60	330	-77	Y	N	N
BB12002	504054.36	6664849.61	-49.97	300.25	317	-77	Y	N	N
BB12003	503754.84	6664541.22	-42.16	404.20	325	-75	Y	N	N
BB12004	503866.26	6664556.24	-47.43	495.20	320	-74	Y	N	N
BB12005	503938.02	6664523.59	-48.22	530.75	350	-78	Y	N	N
BB12006	503850.94	6664388.32	-45.81	611.50	352	-76	Y	N	N
BB12007	503741.82	6664364.83	-43.08	599.30	353	-75	Y	N	N
BB12008	503922.63	6664262.80	-45.82	706.50	350	-76	Y	N	N
BB12009	503967.26	6664148.12	-47.03	769.75	356	-77	Y	N	N
BB12010	503982.65	6664354.08	-46.48	649.40	357	-78	Y	N	N
BB12011	504559.18	6665269.31	-38.02	101.80	322	-54	N	N	N
BB12012	504496.76	6665214.94	-36.60	287.50	395	-56	Y	N	N
BB12012B	504491.60	6665241.50	-42.75	8.10	322	-50	N	N	N
BB12013	503870.56	6664162.06	-45.99	782.90	326	-78	Y	Y	N
BB12014-MET	503518.32	6664743.35	-44.12	30.00	89	-70	N	N	N
BB12015-MET	503795.81	6664758.28	-45.58	468.30	146	-80	Y	N	N
			Total	**7426.05**					

Source: NIO

10.2 2014 Drill Programme

The 2014 drilling programme was designed to investigate the area between Flygruvan/Kalvgruvan and Hugget (formally known as "**the Wedge**" or Betsta area) and to infill the intermediate depth extension of Hugget, (-320 m to -660 m; measured from surface depth and relating to mining blocks) in order to improve the confidence of the geological model.

At the onset of planning for this drill programme, it was deemed necessary that a larger diameter drilling method, NQ2 (50.6 mm core diameter), and larger, more powerful drilling rigs were to be used to alleviate deviation; hole losses due to fractured/clay strata and to improve core recovery.

13 drillholes, totalling 7,093 m, were drilled by the Finnish contractor Kati using a Sandvik DE 140 and Onram 1000 and NQ2 drilling methodology, recovering 50.6 mm diameter drill core and producing 75.5 mm diameter drillholes. Kati used a hexagonal reamer which helped ensure that the drillholes had minimum deviation.

One of the drillholes (BB_14-011) was drilled down-dip for geotechnical purposes.

All holes were drilled with orientation information, using either a Devico Devicore or ACT II Reflex tool to provide accurate structural information. Eight holes were subject to pump testing to provide information on the potential for water bearing fracture zones. Each hole was measured for deviation using a Devicore Deviflex gyroscope.

Figure 10-2 **Kati drilling rig (2014 drill programme)**

Source: NIO

Table 10-2 2014 NIO drill programme summary

Hole ID	Collar X	Collar Y	Collar Z	Depth m	Azimuth °	Dip °	Completed	Orientation	Water pressure
BB_14-001	503966.65	6664675.74	-47.54	430.05	336	-78	Y	Y	N
BB_14-002	504010.83	6664605.24	-49.44	464.28	336	-75	Y	Y	N
BB_14-003	504059.67	6664542.24	-47.97	509.90	336	-75	Y	Y	N
BB_14-004	504107.87	6664434.06	-45.55	596.70	336	-78	Y	Y	N
BB_14-005	503776.23	6664625.74	-44.55	464.30	322	-78	Y	Y	Y
BB_14-006	504301.01	6664578.15	-48.77	564.10	322	-80	Y	Y	Y
BB_14-007	504436.00	6664550.14	-46.78	635.70	322	-78	Y	Y	Y
BB_14-008	503623.60	6664584.70	-44.32	455.80	322	-78	Y	Y	Y
BB_14-009	504236.00	6664685.00	-42.75	525.00	322	-78	Y	Y	N
BB_14-010	504380.00	6664468.00	-42.75	665.00	322	-78	Y	Y	Y
BB_14-011	504191.05	6664870.50	-49.48	664.30	142	-75	Y	Y	Y
BB_14-012	504153.76	6664582.01	-49.68	497.70	328	-78	Y	Y	Y
BB_14-013	504473.21	6664652.83	-46.64	620.00	325	-77	Y	Y	Y
			Total	**7092.83**					

Source: NIO

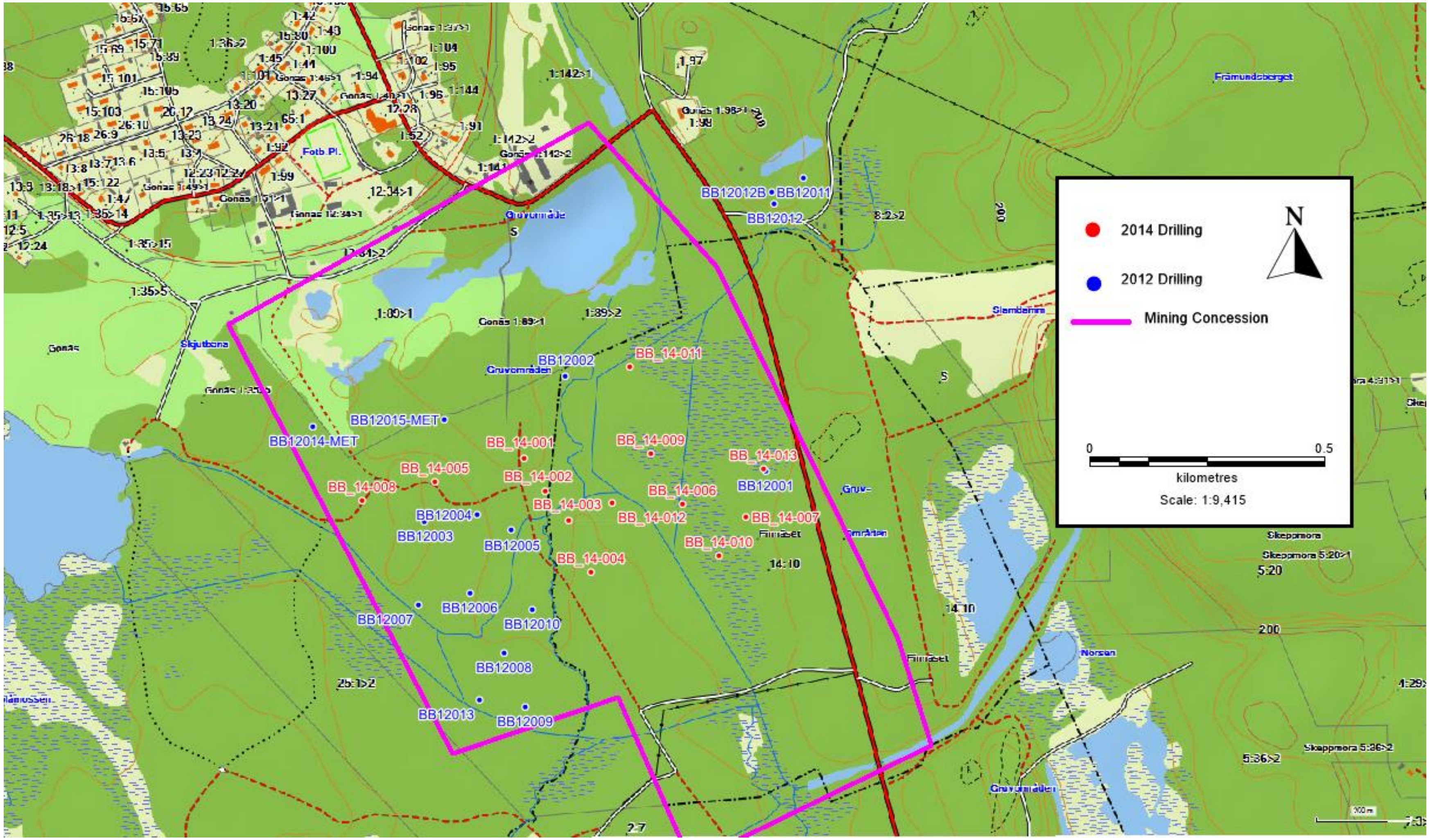


Figure 10-3 **2012 and 2014 drillhole locations**

Source: NIO

10.3 Logging

10.3.1 Re-Logging of Historical Core

During 2011/12 Berg och Gruvundersökningar AB (“**BGU**”) was engaged by NIO to log and sample historical cores that were stored at the SGU repository in Malå.

13 cores, totalling 5077.21 m were logged for geological and geotechnical data (for RQD), then photographed (dry and wet).

A detailed report containing geological descriptions, profiles and sections was created entitled “*Geological Logging and Sampling of Archive Cores at the Central Core Archive in Malå 2012-13”*. This report was updated once the 2012 drilling campaign had been completed. The updated report was entitled “*Core Logging, Geological Description and Interpretation of Blötberget, Finnäset – Väsman and Håksberg 2013”*. Both of these reports were compiled by BGU.

10.3.2 2012 & 2014 Programmes

The core from the 2012 and 2014 drill programmes was collected in the field by NIO’s technicians or geologists and transported directly to the NIO core logging and sample preparation facilities in Grängesberg. The core storage, logging and sampling facilities are clean, well-organised and provide suitable conditions for logging and sampling (Figure 10-4).

Figure 10-4 **Grängesberg core storage facility**

Source: 2014 GeoVista Resource Report

The core is firstly placed on roller tables and inspected for mislabelling or depth inaccuracies. Any discrepancies are checked against daily drilling logs and followed up with the drill teams.

The core is further checked using a magnetic pen and areas of “pull” are marked onto the core boxes and a UV lamp is used to detect presence of Scheelite (tungsten).

The core is then placed in V-rails and the orientation line is drawn from the marks placed by the drilling teams from their orientation tool. Once completed the Geologist logs the core utilising the geological logging template, shown in Figure 10-6.

Figure 10-5 **Core logging facility showing roller tables**

Source: DMT

HOLE ID	BB_141-013
General comments:	

From	To	Length	Description	Lith 1	%	Lith 2	%	Lith 3	%	Lith 4	%	Lith 5	%	LITH TOTAL	Colour 1	Light/Dark	Colour 2	Light/Dark	Colour 3	Light/Dark	Texture 1	Texture 1 occurance	Texture 2	Texture 2 occurance	Texture 3	Texture 3 occurance	mineral type 1	mineral type 1 occurance	mineral type 2	mineral type 2 occurance	mineral type 3
0.00	6.90	6.90		OVB	100									100																	
6.90	8.04	1.14		BMV	80	RFZ	15	SARG	5					100	GR	DARK	GY	DARK	GR	LIGHT	FOL	STRONG	B	LOCAL			AMP	STRONG	CHL	WEAK	BIO
8.04	14.42	6.38		SARG	90	RFZ	10							100	BK		GY	DARK	GY	LIGHT	FOL	STRONG	B	WEAK			BIO	STRONG	AMP	LOCAL	CHL
14.42	15.38	0.96		GRA	95	RFZ	5							100	PK	DARK	GY	LIGHT	GR	LIGHT	FOL	STRONG	GNE	WEAK	B	LOCAL	POTA	WEAK	BIO	LOCAL	EPI
15.38	19.68	4.30	veins purple dark -> possibly precipitation of hematite/magnetite	GRA	75	RFZ	25							100	PK	DARK	RD	DARK	BK		M	STRONG	MOT	STRONG			POTA	STRONG	BIO	WEAK	EPI
19.68	25.16	5.48	GRA MASSIVE (30CM) AT 21,45M + 2 VEINS OF PEG : ONE (4CM) AT 21,40M AND ONE (8CM) AT 21,95M	GRA	85	BMV	10	RFZ	5					100	PP	DARK	PP	LIGHT	YL	LIGHT	FOL	STRONG	GNE	WEAK	UG	LOCAL	POTA	WEAK	BIO	WEAK	EPI
25.16	26.70	1.54		GRA	95	RFZ	5							100	GR	DARK	GR	LIGHT	GY	LIGHT	FOL	STRONG	GNE	WEAK			POTA	WEAK	BIO	WEAK	
26.70	29.89	3.19		GRA	90	RFZ	10							100	GY	LIGHT	PK	LIGHT	YL	LIGHT	FOL	STRONG	GNE	WEAK			POTA	WEAK	BIO	WEAK	EPI
29.89	32.31	2.42		RFZ	60	BMV	40							100	GR	LIGHT	BR	DARK	YL	LIGHT	BREC	STRONG	B	LOCAL			AMP	STRONG	CHL	WEAK	EPI
32.31	33.34	1.03		GRA	95	RFZ	5							100	YL	LIGHT	GY	LIGHT	GR	LIGHT	FOL	STRONG	GNE	WEAK			POTA	WEAK	BIO	WEAK	EPI
33.34	48.65	15.31	RFZ (55CM) AT 38,30M + BRECCIA (15CM) AT 42,25M + VEIN OF PEG (13CM) AT 43,20M + CALCITE INTO THE HOLES OF THE GRA AT 48M ON 25CM	GRA	90	RFZ	10							100	GY	LIGHT	GY	DARK	PK	LIGHT	FOL	STRONG	GNE	WEAK	UG	LOCAL	POTA	WEAK	BIO	WEAK	EPI
48.65	55.55	6.90	RFZ (70CM) AT 49,25M (PLUS SEVERAL SMALL (5-15CM OTHER RFZ) + veins purple dark -> possibly precipitation of hematite/magnetite + GRA HAS A GNESOSITY TEXTURE AND MASSIVE TEXTURE + VEIN (12CM) OF PEG AT 50,30M	GRA	80	BMV	10	RFZ	10					100	PK	LIGHT	GY	LIGHT	YL	DARK	BREC	STRONG	FOL	LOCAL	M	LOCAL	POTA	WEAK	BIO	WEAK	EPI
55.55	61.03	5.48	GRA (132CM) POROUS BETWEEN 57,85-59,30M + veins purple dark -> possibly precipitation of hematite/magnetite + VEIN (8CM) OF PEG AT 59,95M	GRA	100									100	PP	DARK	PK	DARK	GR	LIGHT	FOL	STRONG	GNE	WEAK	UG	LOCAL	POTA	STRONG	BIO	WEAK	CC
61.03	62.26	1.23		BMV	85	GRA	15							100	GR	DARK	PK	DARK	YL	LIGHT	FOL	STRONG	B	WEAK	GNE	LOCAL	AMP	STRONG	BIO	LOCAL	POTA
62.26	63.68	1.42	RED COLOR -> JASPELITE?	SARG	90	GRA	10							100	RD	DARK	GR	DARK	GY	DARK	FOL	STRONG	GNE	WEAK	M	LOCAL	BIO	WEAK	POTA	WEAK	
63.68	64.87	1.19	BIG CONCENTRATION OF AMPHIBOL GRAIN AT 64M ON 10 CM	BMV	100									100	GR	DARK	RD	DARK	BK		FOL	WEAK	MOT	LOCAL			AMP	STRONG	JASP	LOCAL	PYR
64.87	72.08	7.21	VEIN (5CM) OF PEG AT 71,20M + veins purple dark -> possibly precipitation of hematite/magnetite	GRA	100									100	RD	DARK	PK	DARK	BK		M	STRONG	MOT	STRONG	UG	LOCAL	POTA	STRONG	BIO	WEAK	EPI

Figure 10-6 NIO geological logging sheet

Source: NIO

NIO staff produce logs of the drill core using industry standard procedures. This includes core recovery, geotechnical and lithological logging and photography (wet and dry). In addition, point load tests are conducted on the core in order to assess the rock mechanical properties.

10.3.2.1 Core Recovery & Geotechnical Logging

Geotechnical logging information is collected to determine the Rock Quality Designation ("**RQD**") and Barton's Q classifications.

Fractures, foliation and joints are measured for their angle using a Drill Core Structure Orientation ("**DCSO**") device, supplied by Petroteam Engineering. This device uses two lasers to measure alpha and beta angles and core diameter. The DCSO is connected directly to the logging laptop and the software included with the device enables the data measured to be captured directly into the database. Once the logging has been completed, selection of mineralised core to be sent for sampling takes place (Figure 10-7).

Figure 10-7 Geologist using DSCO device

Source: NIO

11 SAMPLE PREPARATION, ANALYSES & SECURITY

11.1 Introduction

The core from the 2012 and 2014 drill programmes was collected in the field by NIO's technicians or geologists and transported directly to the NIO core logging and sample preparation facilities in Grängesberg.

NIO compiled its own Sampling Quality Manual, which sets out best practice procedures relating to core handling, sampling, analysis and QA/QC procedures and is summarised in the following sections.

11.2 Sampling & Assaying of Historical Samples

Samples from historical drillholes, which have not been re-assayed, contain only % Fe grades as standard, presented as either % Fe HCl (to determine only Fe oxide species), or % Fe Total determinations.

Assays for % SiO_2 and % P have been discovered for less than half these historical assayed samples. Formerly, these historical samples were sampled by visual inspection, i.e. those samples that appeared to be above a grade of 35 % Fe. Material below this subjectively applied high grade 'cut-off' was not considered economic. This methodology has resulted in data gaps in the mineralised material as samples deemed to contain <35 % Fe have not been sampled.

712.8 m of mineralised material was sampled using current industry best practice at the SGU Malå logging facilities. Core boxes were then transported to CL Prospecting in Malå for sawing and density measurements. Samples were then packaged and sent to ALS, Piteå for analysis. In addition samples were sectioned out for metallurgical testing to be carried out on assay rejects at Minpro AB, in Stråssa, Sweden. Samples were also sent for environmental and leach testing by Golder Associates AB, Sweden.

No QA/QC samples were sent along with these samples for assaying by ALS. Density was determined for historical core samples using the Archimedes method.

11.3 Sample Preparation (2012 & 2014 Programmes)

After the lithological and geotechnical logging, sectioning for assaying takes place.

11.3.1 Core Mark-Up

Geologists mark the assay sections on the core boxes as well as on the core itself and insert a sample ticket into the core box. All material with Fe over 5-10 % (determined with hand held XRF, magnetic pull and geological competence), greater than 50 cm in length and within a mineralised section, is selected for sampling.

Sampling lengths are constrained within lithological boundaries in order to assist with sectioning of the mineralised core. Sampled core of similar composition is split into 2 m lengths.

In addition to sampling mineralised core, 1 m of hanging wall (material above the identified mineralised section) and 1 m of footwall (material below) was sampled for each mineralised sample to enable definition of the mineralised zones.

11.3.2 Core Photography

High resolution digital photography (wet and dry) is carried out for each core box from the 2012 and 2014 drill programmes (Figure 11-1 and Figure 11-2).

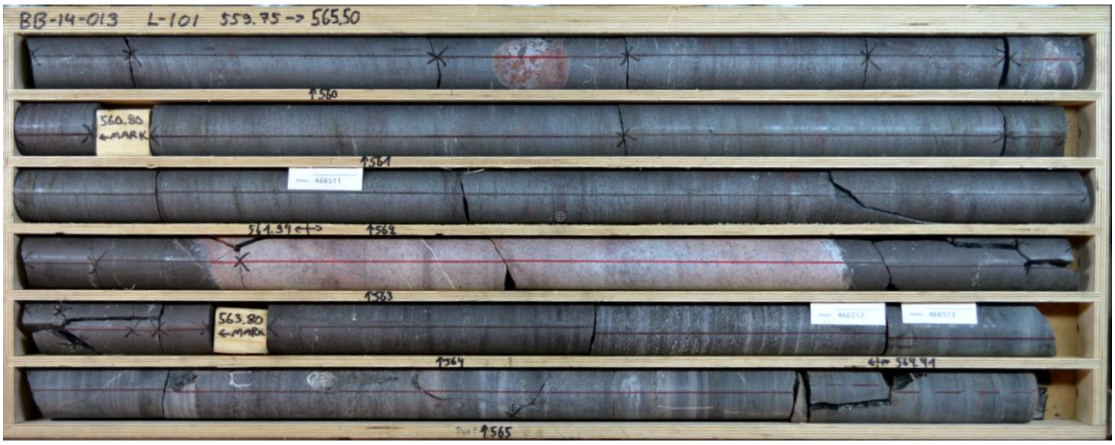


Figure 11-1 Core photography (dry) – BB 14-013

Source: NIO

Figure 11-2 Core photography (wet) – BB 14-013

Source: NIO

11.3.3 Point Load Tests

An industry approved Point Load testing unit is used to assess the rocks mechanical properties (Figure 11-3). The geologist selects a representative, homogenous piece of core based on the geological logging. If the rock has foliation, six measurements are taken – three parallel and three perpendicular within 15-20 cm of each other.

The point load equipment is calibrated each day before use to ensure all measurements are accurate.

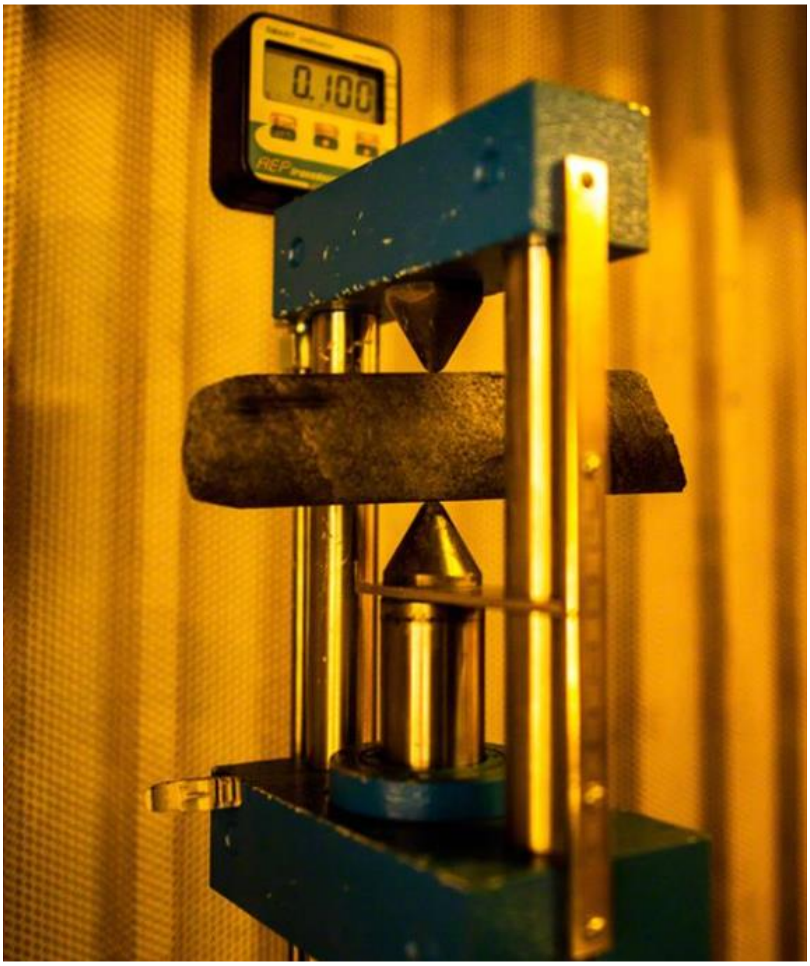


Figure 11-3 Point load device

Source: NIO

11.3.4 Core Splitting

The core is split by diamond sawing, with ¼, ⅓, or ½ core sent for analysis. At the beginning of the 2012 drilling and sampling campaign, ½ core was used. This was subsequently changed to ⅓ core, which is now the standard procedure, in order to preserve more material for later test work, if needed.

The re-assays of the historical core used ¼ core due to the majority of core in Malå having already sampled ½ core historically (Figure 11-4).

Figure 11-4 Diamond saw

Source: DMT

11.3.5 Density Determination

After splitting with a diamond saw, the core is dried in an oven at 70 ° C for 24 hours. Following this, 1 kg of representative core is selected and weighed in air, then placed in water and weighed again while suspended in the water. All sections selected for assay by NIO, from the re-logged historical core as well as from core from the recent drilling campaigns, have had the density determined using the Archimedes method. The weighing machines used during this process are calibrated before use and after every 40 samples using an accredited 1 kg calibration weight supplied by the manufacturer.

The 632 samples taken during the SGU Malå historical re-logging campaign had density measurements carried out on only 100-300g of representative material.

When the Grängesberg core logging and storage facility came into operation in 2011, this density measurement was changed to select samples weighing more than 1000 g (1 kg) and typically using half core. This resulted in a better sample representation and for density determination in the tonnage calculations. Primary bulk density was carried out on all core sent for sampling. Data was thus compiled for low, medium and high grade mineralisation; non- mineralised country rock and internal waste. In total 814 samples with less than 15 % Fe have been analysed.

A correlation curve between bulk density and the grade of Fe is illustrated in Figure 11-5. This is based on 1,527 number of samples tested globally across the Blötberget dataset. There is a clear correlation between bulk density and Fe grade which has allowed the assignment of variable densities to all blocks in the block model (see Section 13).

However, it is considered that an insufficient number of waste sections have had their density determined to date and it is acknowledged that further such determinations will have to be completed for the forthcoming mine planning.

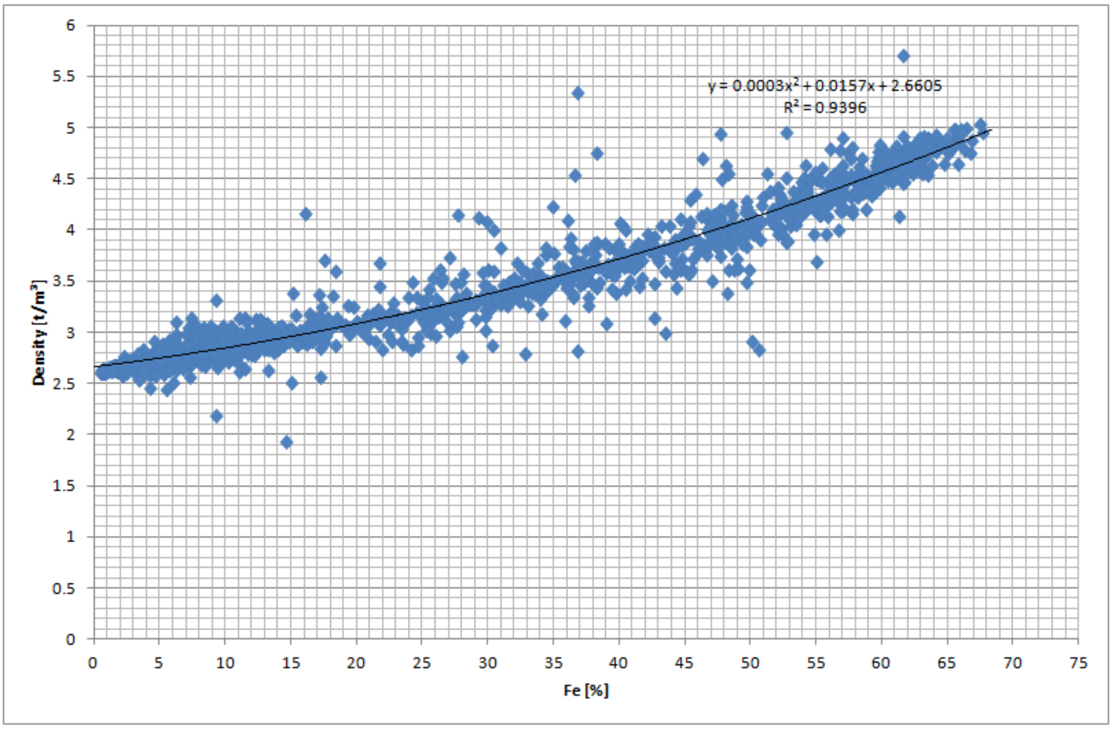


Figure 11-5 **Correlation plot – Density vs. Fe %**

Source: NIO

11.3.5.1 Density Attribution for Non-Oxidized & Oxidized Material

0% Fe = **2.66 t/m³**

8% Fe (equals the average Fe grade of all material not logged as ore) = **2.81 t/m³** (equals the density of all material not logged as ore)

40% Fe = **3.77 t/m³**

11.3.6 Packaging, Dispatch & Transport

Once density determinations have been completed, the sampled core is packaged in a marked plastic bag with a sample tag stapled to the top and a sample tag inside.

Samples are then placed into boxes in batches along with accompanying QA/QC samples and a sample list, prior to being dispatched to the ALS certified laboratory in Piteå, Sweden for sample preparation. All sample batches are sent using a registered Swedish courier service, either Bussgods or DHL. Once samples are picked up, the consignment details are emailed through to ALS preparation labs in Piteå. Once ALS receives the batches in Piteå, they are weighed and recorded in their global tracking system.

11.4 Sample Security

All drill samples from the 2012 and 2014 drill programmes were collected under direct supervision of Project staff from the drill rig and remained within the custody of staff up to the moment the samples were delivered to the laboratory then picked up or delivered to a national courier service for delivery to the ALS, Piteå laboratory.

Samples, including duplicates, blanks and certified reference materials are stored in the secure Grängesberg storage area within the locked and fenced Grängesberg core facility.

Chain of custody procedures consisted of filling out sample submittal forms, which are sent to the laboratory with sample shipments, and also emailed directly to the laboratory to make certain that all samples are received by the laboratory. All samples dispatched are assigned tracking IDs which enabled the laboratory and NIO to track consignments to ensure they arrived successfully.

DMT believes that the sample preparation, dispatch and transit procedures for samples from the 2012 and 2014 drill programmes are in accordance with industry best practice.

11.5 Analysis

Analyses for the 2012 and 2014 samples was carried out by ALS Global in Vancouver.

The ALS sample preparation lab crushes to 70% <2 mm and 250g is riffle split off. This 250g is then pulverized into 85% passing 75 microns. From the ALS sample preparation laboratory in Piteå, ampoules of approximately 250 g of the crushed and milled material is sent to ALS in Vancouver for analysis.

11.5.1 Malå Historical Sampling Campaign

Of the 632 samples taken during the SGU Malå historical core logging project undertaken by BGU in 2011-12, 560 were analysed using x-ray fluorescence (“**XRF**”) equipment - ME-XRF11b and ME-XRF21n.

XRF is the method of choice for analysis of oxide iron ores throughout the industry. The lithium borate fusion technique coupled with XRF, offers a robust and repeatable method, consistent with industry requirements. The relatively low flux to sample ratio offers good sensitivity for the majority of elements and creates a matrix which is not subject to particle size effects. With very few spectral interferences and high instrument stability, the XRF method delivers highly accurate and precise results across the full range of iron oxide ore types.

During 2012, analysis was carried out using XRF with either ME-XRF15b or ME-XRF21n equipment. ME-XRF15b was used when samples were suspected of containing larger amounts of sulphide minerals as this method of analysis is more reliable for sulphide-rich samples. In total, 59 samples were analysed with ME-XRF15b.

616 samples were also sent for ME-ICP61a analysis. During the analysis, the sample is digested in a mixture of nitric, perchloric and hydrofluoric acids. Perchloric acid is added to assist oxidation of the sample and to reduce the possibility of mechanical loss of sample as the solution is evaporated to moist salts. Elements are determined by inductively coupled plasma – atomic emission spectroscopy ("**ICP-AES**"). This method is useful for analysis of trace elements such as rare earth elements ("**REEs**").

Table 11-1 Malå historical sampling summary

Total samples analysed	XRF11b/XRF21n	XRF15b	ICP61a
632	560	59	616

Source: NIO

11.5.2 2012 & 2014 Programmes

As of March 2013, only ME-XRF21n analysis was used for samples from Blötberget as the amount of sulphides encountered in the Blötberget 2012 drill programme showed that this method had sufficient detection limits for the amount of sulphur present in the samples.

Samples were subject to Loss on Ignition ("**LOI**") testing using a Thermo Gravimetric Analyser ("**TGA**").

11.5.3 Coarse Rejects & Pulps

After return of the coarse rejects from Piteå and the analysed pulps from Canada. The pulps were subjected to SATMAGAN analysis as well as magnetic susceptibility determination.

11.5.3.1 SATuration MAGnetisation Analyser ("SATMAGAN")

SATMAGAN is used to measure the total magnetic moment of a sample in a saturating magnetic field.

A 1.2cm^3 of pulp material of <0.3 mm grind size is placed into the SATMAGAN. The SATMAGAN weighs the sample in air, then in a magnetic field. When combined with the Fe % assay results, the proportion of Fe bound to magnetite can be determined.

The results from the SATMAGAN produce quantified percentages of magnetic material, which has been utilised in conjunction with Fe % Total XRF and inductively coupled plasma ("**ICP**") assays to determine magnetite and hematite ratios effectively. The results of the SATMAGAN determinations are presented in the Figure 11-6.

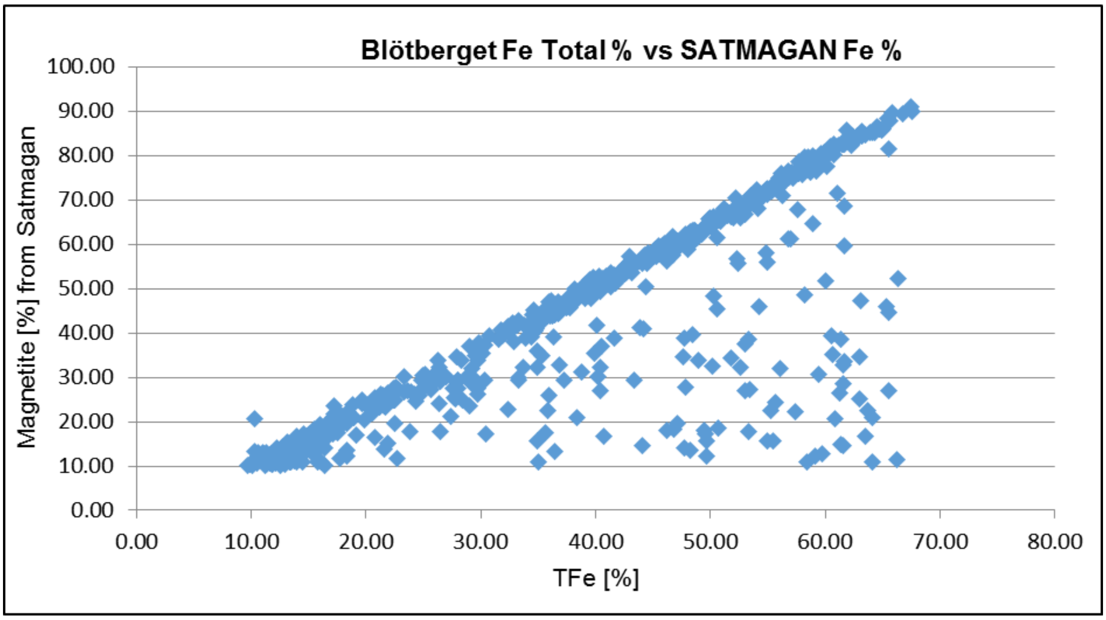


Figure 11-6 **Correlation plot –Fe Total % vs. SATMAGAN Fe %**

Source: NIO

11.5.3.2 Magnetic Susceptibility

A KT10 magnetic susceptibility ("**Magsus**") meter has been used to analyse all return pulps currently available on site at the core storage facility in Grängesberg.

The pulp bags are agitated by hand to homogenise the sample and then three reading are taken, once from the top, bottom and side of the pulp bags. An average for each sample is then calculated from these values.

The magnetic susceptibility metre determines the degree of magnetization of the material in response to an applied magnetic field, which enables accurate determination of Fe bound to magnetite when combined with the certified Fe % from the ALS results.

When the Magsus values are plotted against SATMAGAN contained magnetite percentage, the results correlate reasonably well up to a SATMAGAN value of approximately 70 % magnetite, above which the correlation is more scattered (Figure 11-7).

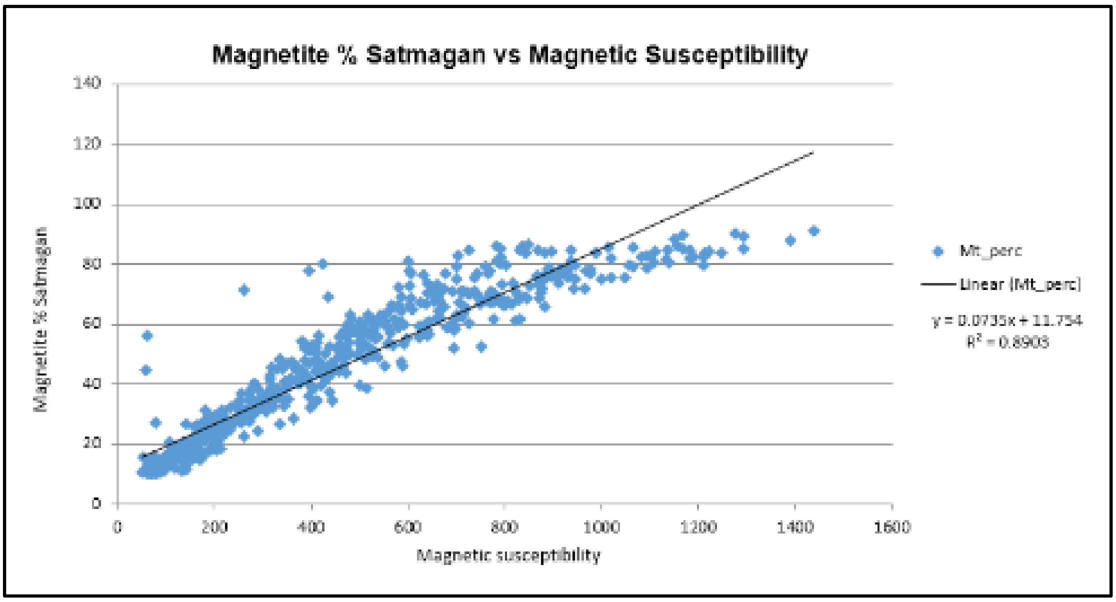


Figure 11-7 **Correlation plot –Magnetite % SATMAGAN vs. Magnetic Susceptibility**

Source: NIO

11.6 Quality Assurance / Quality Control ("QA/QC")

11.6.1 Historic

There are no records documenting the QA/QC control procedures during historical logging, sampling and analysing (i.e. prior to 2012). The drill core was logged following the mine/industry standard at the time. Geological mine level sections were marked where core sections were visually assessed to be "mineable". A check sample was then taken with a follow –up analysis in the onsite laboratory. Recent re-analysis of 22 of the historical holes that had assay data available has been plotted against the re-assayed results. These results indicate that Fe has been under represented but is consistent <15 Fe % error which means there is reasonable confidence levels in the historical analysis (Figure 11-8). Phosphorous, however, was not representative, as the plot shows there was an error <40 % which indicates historical phosphorus data cannot be used in the current resource model. (Figure 11-9).

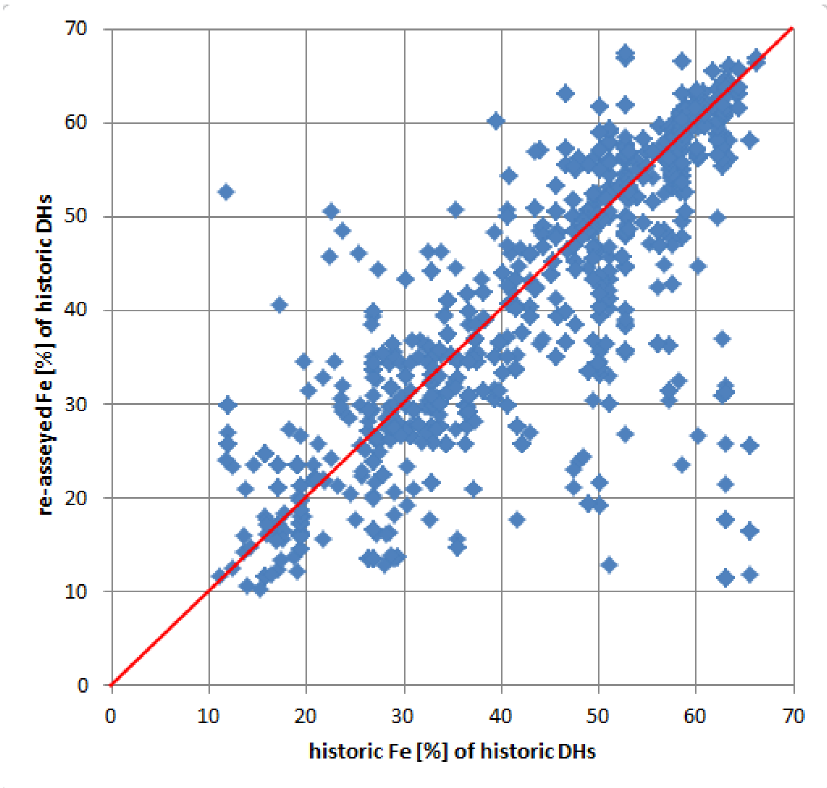


Figure 11-8 **Correlation plot –Fe Re-Assay % vs. Fe Historic %**

Source: NIO

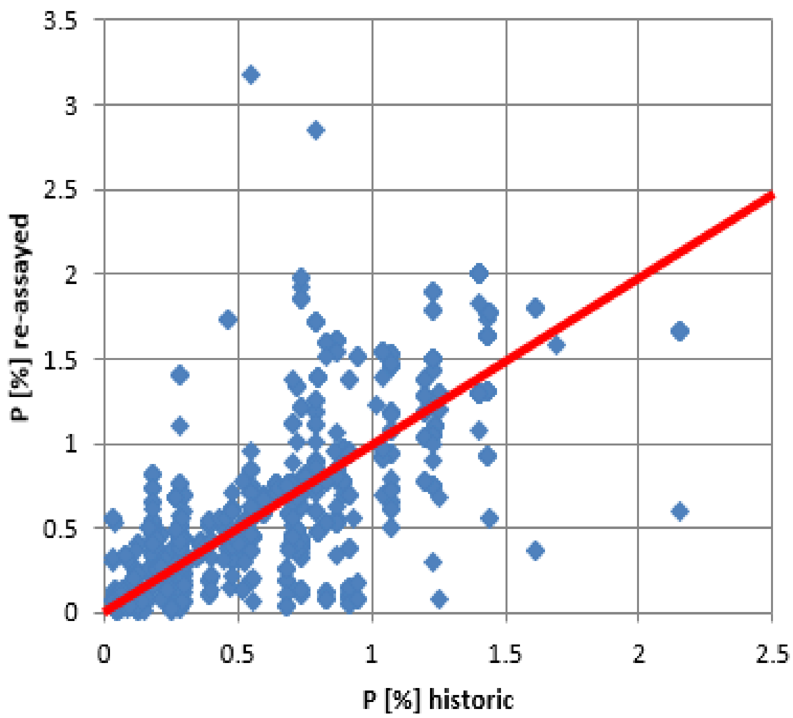


Figure 11-9 **Correlation plot –Phosphorous Re-Assay % vs. Phosphorous Historic %**

Source: NIO

The ALS Chemex laboratory in Vancouver used by NIO is accredited to ISO/IEC 17025:2005 standards.

All of the methods of analysis used in 2012 and 2014 are considered appropriate by DMT for iron ore projects of this type.

All results from every analysis were recorded within an MS Excel worksheet, checked using the QA/QC data then and transferred to the NIO Blötberget Access database. All coarse rejects, pulps and drill cores are then fully catalogued and stored in Grängesberg for reference at a later date.

11.6.2 Equipment Accuracy & Tolerances

The analytes and ranges for the ME- ICP61a, ME-XRF21n and XRF15b equipment at ALS Vancouver are illustrated in Table 11-2.

Table 11-2 Analytes and ranges for ME- ICP61a, ME-XRF21n and XRF15b from ALS Labs

ANALYTES & RANGES (ppm)								CODE
Ag	1-200	Cr	10-100,000	Na	0.05%-30%	Ti	0.05%-30%	ME-ICP61a
Al	0.05%-30%	Cu	10-100,000	Ni	10-100,000	Tl	50-50,000	
As	50-100,000	Fe	0.05%-50%	P	50-100,000	U	50-50,000	
Ba	50-50,000	Ga	50-50,000	Pb	20-100,000	V	10-100,000	
Be	10-10,000	K	0.1%-30%	S	0.05%-10%	W	50-50,000	
Bi	20-50,000	La	50-50,000	Sb	50-50,000	Zn	20-100,000	
Ca	0.05%-50%	Mg	0.05%-50%	Sc	10-50,000			
Cd	10-10,000	Mn	10-100,000	Sr	10-100,000			
Co	10-50,000	Mo	10-50,000	Th	50-50,000			

ANALYTES & RANGES (%)						DESCRIPTION	CODE
Al_2O_3	0.01-100	K_2O	0.001-6.3	Sn	0.001-1.5	Fused disc XRF	ME-XRF21n (normalized) ME-XRF21u (un-normalized)
As	0.001-1.5	MgO	0.01-40	Sr	0.001-1.5		
Ba	0.001-10	Mn	0.001-25	TiO_2	0.01-30		
CaO	0.01-40	Na_2O	0.005-8	V	0.001-5		
Cl	0.001-6	Ni	0.001-8	Zn	0.001-1.5		
Co	0.001-5	P	0.001-10	Zr	0.001-1		
Cr_2O_3	0.001-10	Pb	0.001-2	Total	0.01-110		
Cu	0.001-1.5	S	0.001-5				
Fe	0.01-75	SiO_2	0.01-100				

ANALYTES & RANGES (%)						CODE
Al_2O_3	0.01-100	La_2O_3	0.01-50	Sn	0.005-20	ME-XRF15b*
As	0.01-10	MgO	0.01-40	Sr	0.01-5	
BaO	0.01-66	Mn	0.01-30	Ta	0.002-16.4	
Bi	0.01-5	Mo	0.005-2	Th	0.002-5	
CaO	0.01-40	Nb	0.005-20	TiO_2	0.01-30	
CeO_2	0.01-50	Ni	0.005-20	U	0.001-5	
Co	0.01-7	P_2O_5	0.01-25	V	0.01-5.6	
Cr	0.01-10	Pb	0.005-20	W	0.001-15.9	
Cu	0.005-20	S	0.01-20	Zn	0.005-20	
Fe	0.01-75	Sb	0.005-20	Zr	0.01-20	
K_2O	0.01-6.3	SiO_2	0.01-100			

Source: ALS

11.6.3 Check Samples

Check samples have consisted of certified standards, blanks and duplicates of previously assayed samples.

No QA/QC samples were analysed for the re-assayed historic core project undertaken by BGU at Blötberget.

During the 2012 drilling and sampling campaign, samples used for quality assurance and quality control purposes were inserted, on average, one every 20 samples (5% insertion rate). During the 2014 drilling programme this changed to one in every 15 samples (6.7% insertion rate) for each type of check sample, namely; standards, duplicates and blanks.

Standards were inserted dependant on the Fe grade of the material that was being sampled.

QA/QC samples were inserted at a rate of 6 %, comparing favourably to the documented protocol. In total, 45 duplicates, 8 blanks at 1 % Fe, and 42 at 2 % Fe, 17 GIOP-94, 15 GIOP-120, 9 GIO-48 and 2 GIOP-126, standards were analysed. The results of the analyses are plotted in figures below.

The potential effects of bias in the sampling of the 2012 and 2014 core, where different proportions of core were used at different times, has not been investigated to date.

11.6.3.1 Duplicates

The duplicate analyses show an excellent correlation between original and duplicate % Fe Total, magnetite and phosphorus results.

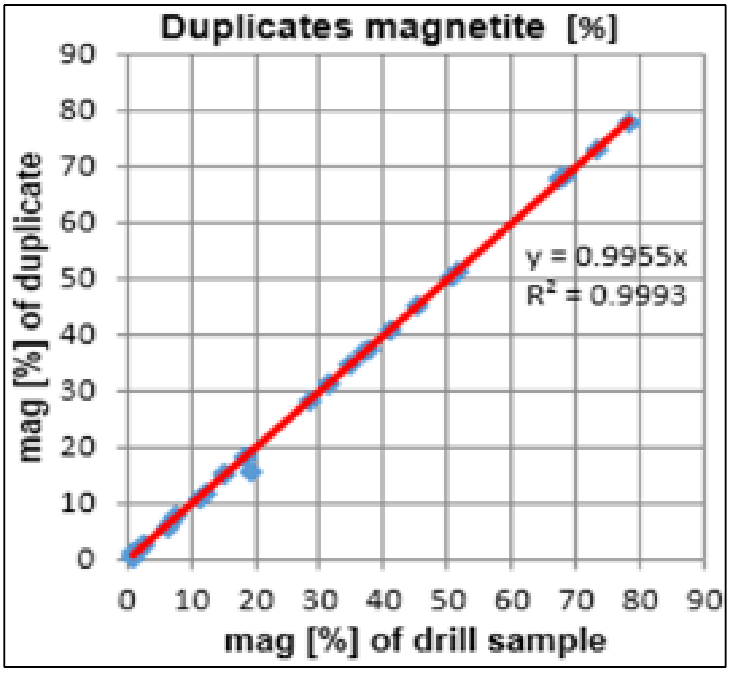


Figure 11-10 **Duplicate analyses – Magnetite**

Source: NIO

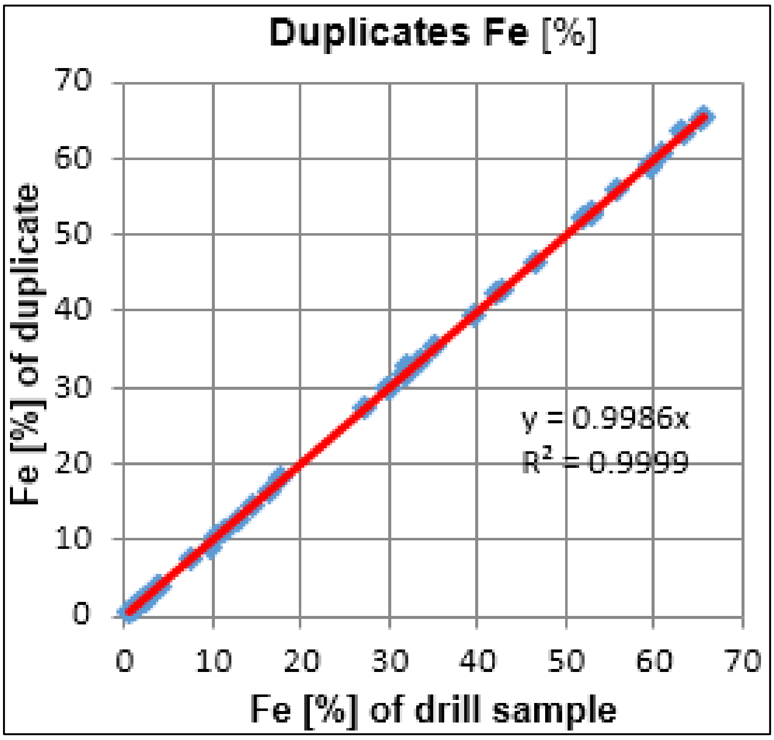


Figure 11-11 **Duplicate analyses – Fe Total**

Source: NIO

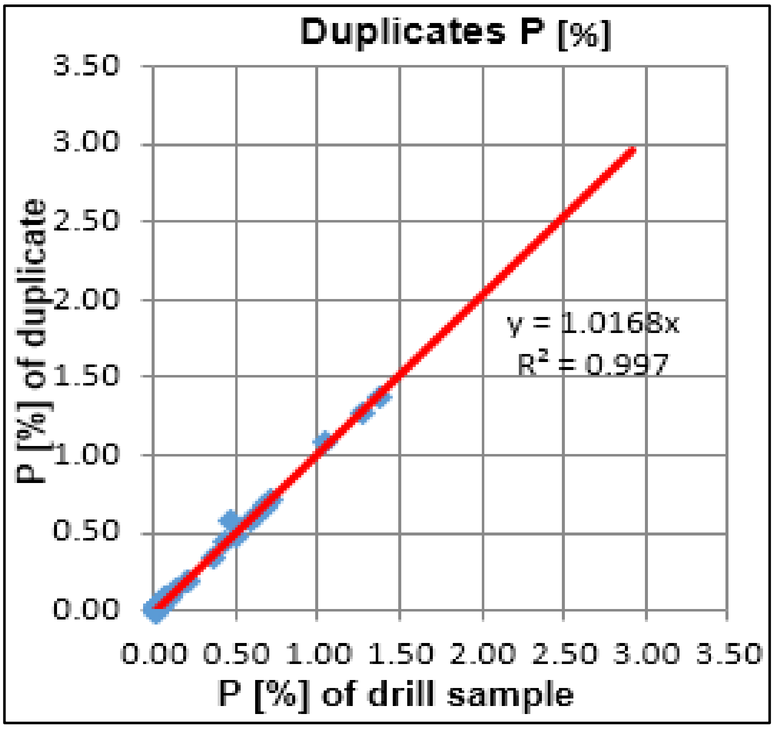


Figure 11-12 **Duplicates analyses – Phosphorus**

Source: NIO

11.6.3.2 Blanks

There are two blanks in the NIO database; the NIO blank material is a quartz-rich sand from a nearby quarry, and the ALS Chemex blank material is a quartzite. The first blank was used until mid-way through the 2012 drilling programme which averaged 1 % Fe, and the second blank that replaced the first blank standard averages 2 % Fe.

The blank analyses show two separate trends, with the initial blank standard grading ~1 % Fe Total and the replacement blank which grades at ~2 % Fe Total. The results of the two blank materials used (NIO and ALS) are shown in Figure 11-13. The red line on the graph indicates the point of change of the blank materials in 2012.

The results indicate that there have been no contamination issues.

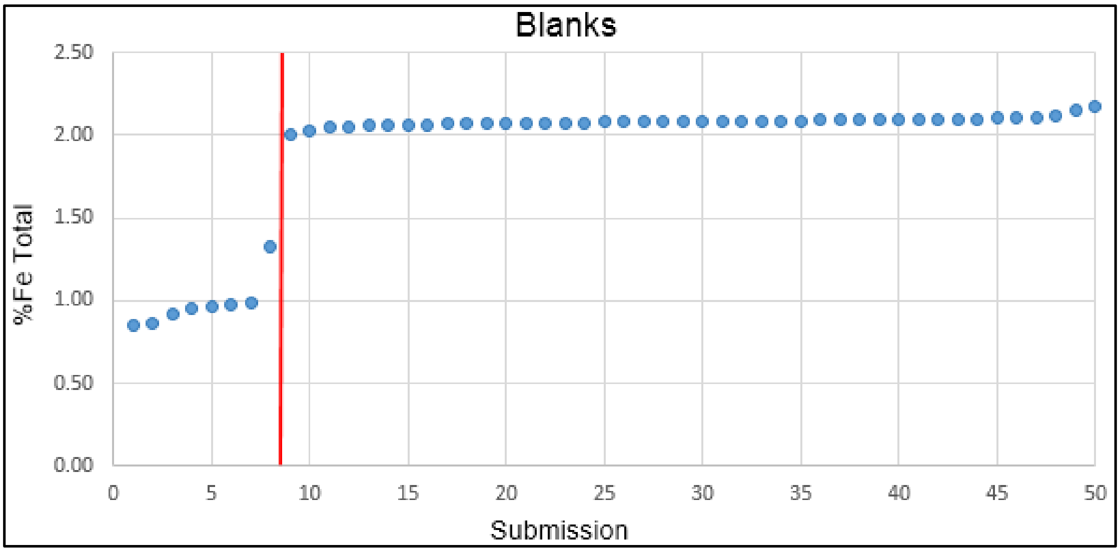


Figure 11-13 Blanks analyses - % Fe Total

Source: NIO

Assay results of blank material show significant amount of Fe and magnetite. Due to the good reproduction demonstrated from duplicates and certified standards, it is considered by DMT that the preparation of the blank sample requires more attention.

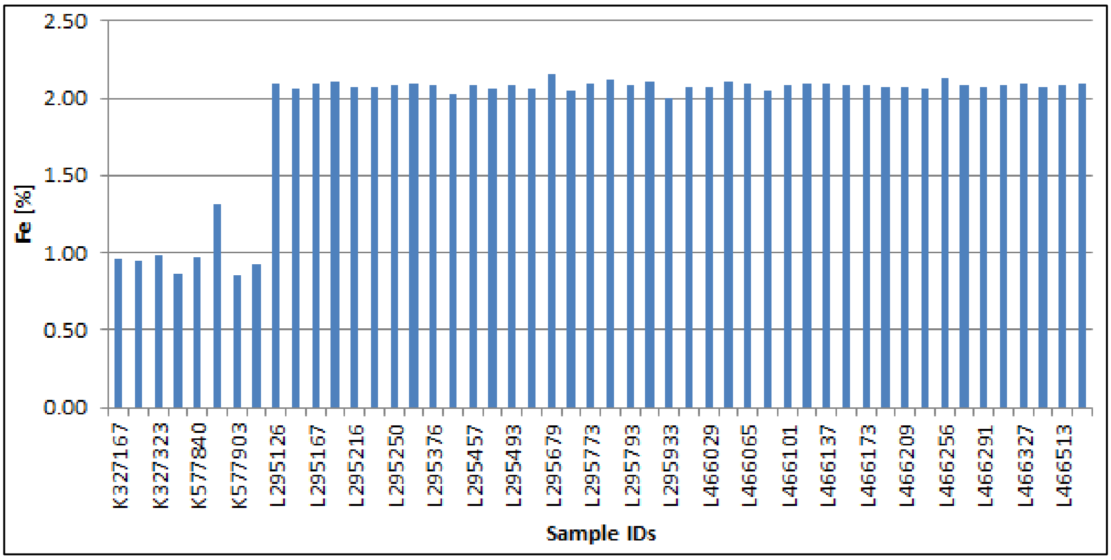


Figure 11-14 Assay results of blank samples - Iron

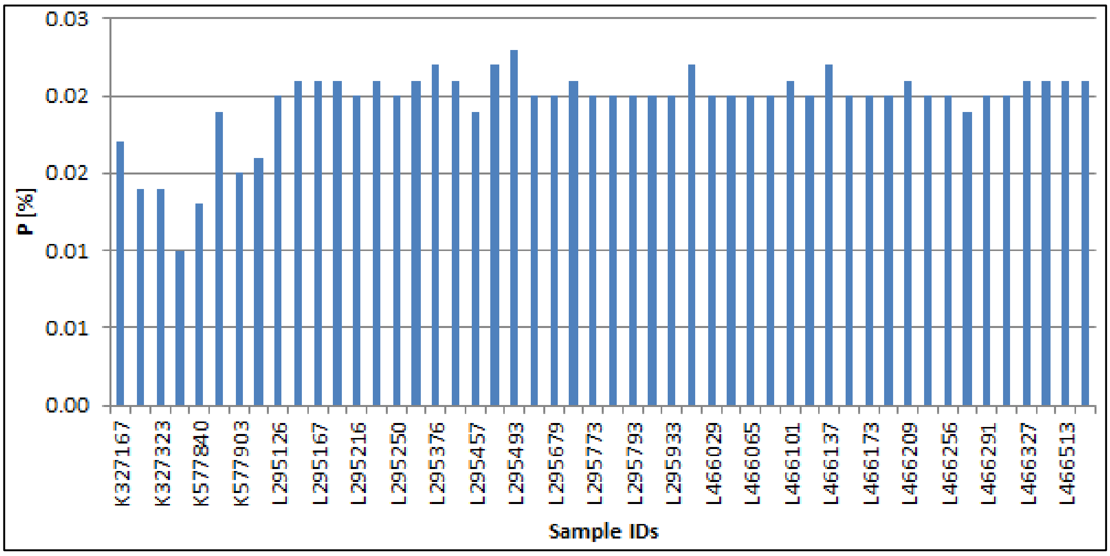


Figure 11-15 Assay results of blank samples - Phosphorous

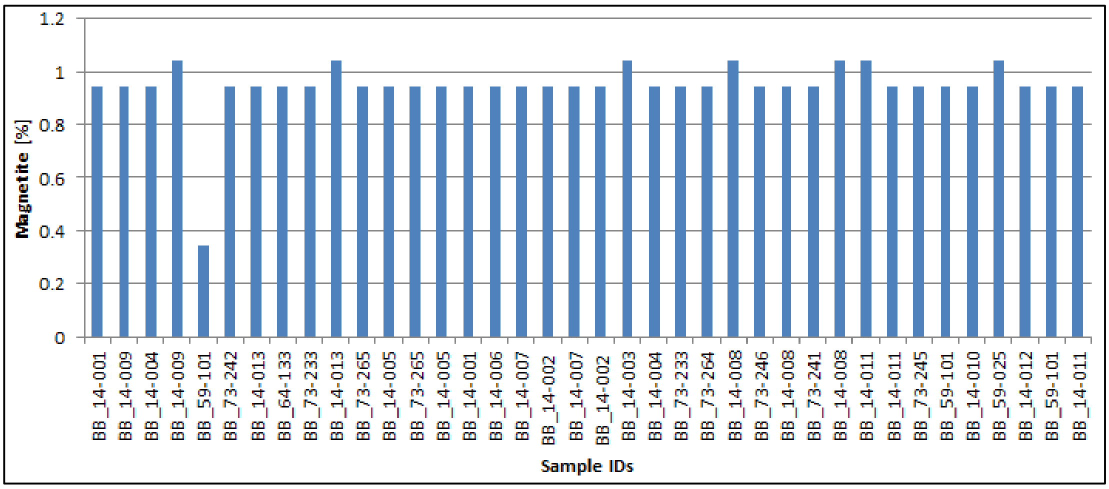


Figure 11-16 Assay results of blank samples – Magnetite

Sources: NIO

11.6.3.3 Certified Standards

The standards represent an appropriate spread of % Fe Total grades, as shown below:

- **GIOP-126** (certified mean of 49.61% Fe Total)
- **GIOP-120** (certified mean of 2.83% Fe Total)
- **GIOP-94** (certified mean of 23.97% Fe Total)
- **GIOP-48** (certified mean of 45.93% Fe Total)
- **OREAS-701** (certified mean of 23.98 % Fe Total containing Fe_3O_4 17.95%) (For use calibrating the SATMAGAN)

The four standards used show a slight negative bias to the data compared to the certified mean and the lower confidence limits set by the manufacturer. The majority of the data fall within errors of < 1% for iron and phosphorous and <2 % error for magnetite from the SATMAGAN analysis of the confidence intervals given by the standards manufacturer.

According to NIO, the standards often fall outside the lower or upper confidence levels. In this case, the total error of digestion and analysis for Fe is <1% for laboratory work (not 1 % Fe, 1 % total error).There is no indication of a systematic error by applied digestion or analysis method. Viewed in the context of the overall resource estimate error, the <1% error of the standards is deemed acceptable.

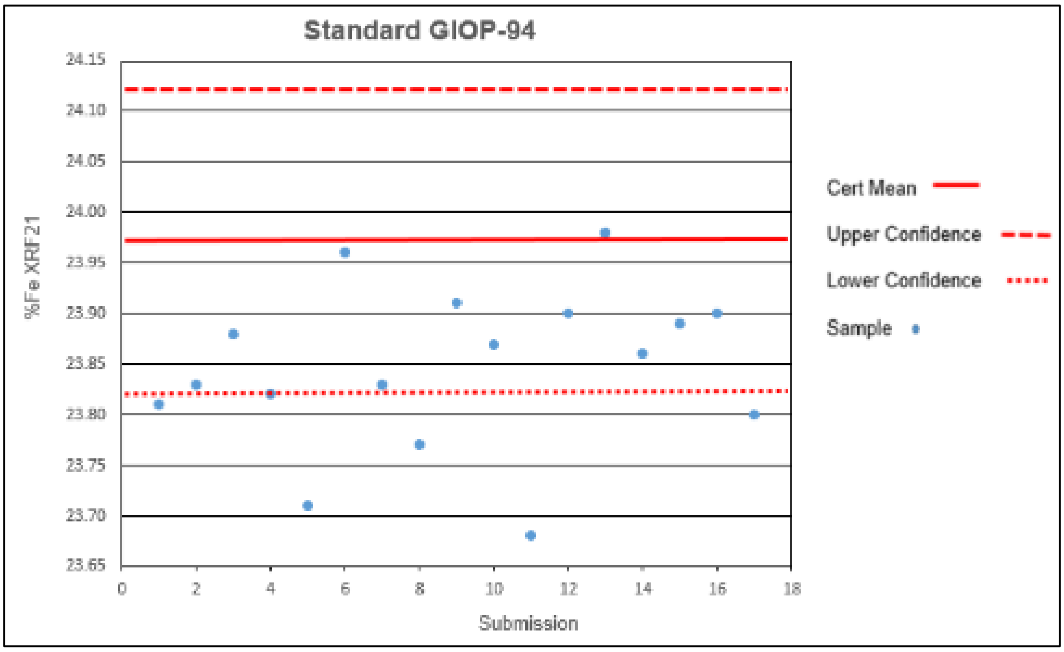


Figure 11-17 **Standards analyses – GIOP-94**

Source: NIO

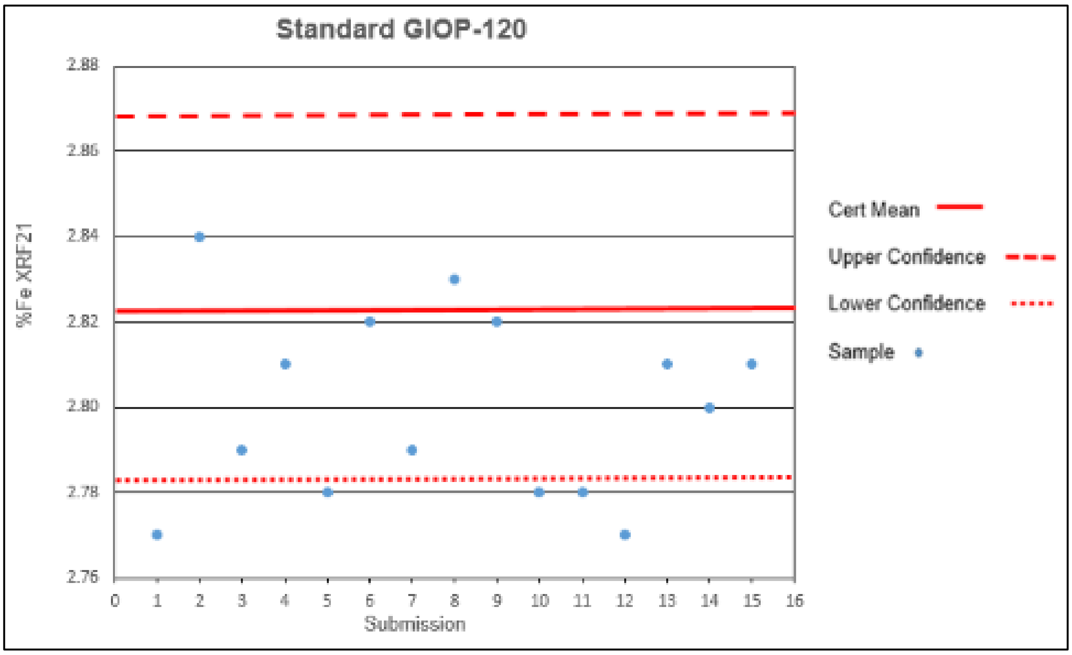


Figure 11-18 Standards analyses – GIOP-120

Source: NIO

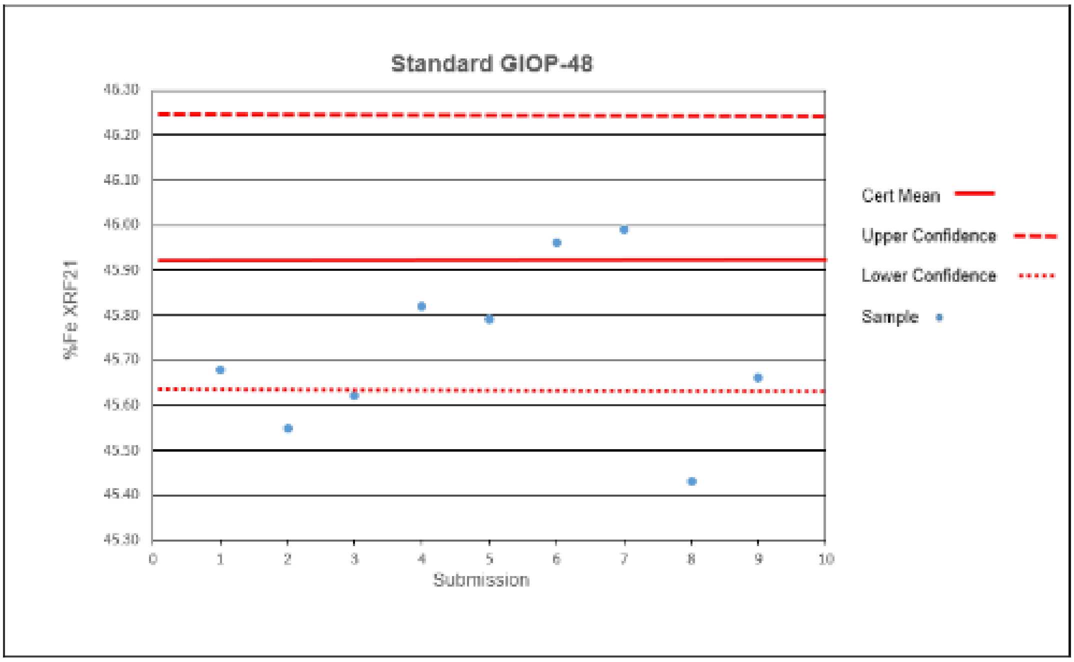


Figure 11-19 Standards analyses – GIOP-48

Source: NIO

Figure 11-20 Standards analyses – GIOP-126

Source: NIO

11.6.4 SATMAGAN

Before the SATMAGAN is used, it is calibrated using the 10 supplied calibration samples from the manufacturer, Rapiscan. These calibration samples are 0, 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 % Fe bound to magnetite.

During analysis, the Standard OREAS 701 (provided by Ore Research and Analysis Australia) is inserted 1 in 5 samples (20 %). This standard has a certified mean of 23.98 % Fe Total and contains Fe_3O_4 17.95 %. NIO's blank sample and a sample of duplicate material created during sample selection by the geologists is also inserted at a rate of 1 in 5 (20 %). The SATMAGAN is factory calibrated annually by Holger Andreasen AB in Örebro, Sweden.

11.6.5 Magnetic Susceptibility

The KT-10 Magsus equipment is factory calibrated each year by Radiation Detection Systems AB in Falun, Sweden.

12 DATA VERIFICATION

12.1 Introduction

The accuracy and precision of data acquisition methods has been verified by DMT in order to assess the adequacy, reliability and representativeness (reproducibility) of the resulting data.

The verification was focused on the following data:

- Drilling location (collar) and drillhole orientation information to confirm the correct position of samples;
- Drilling and sample recovery in order to verify unbiased analytical results;
- The QA/QC sample set (Certified Standards, Blanks and Duplicates); implemented in each sample batch in order to verify the representativeness of results produced by sample preparation, digestion and chemical and mineralogical analysis;
- Davis Tube Recoveries in order to verify the magnetite data obtained by NIO using SATMAGAN instrumentation; and
- Density determinations.

All data from 2012 and 2014 have been acquired based on standard operating procedures (“**SOPs**”). Surface historical drillholes have been re-surveyed and a number of historical drillholes have been re-logged and re-assayed.

The location of all historic drillholes and geological underground maps have been converted from a local mining grid to map datum SWEREF99-TM. A local height reference system has been established, the current “zero” for which is 226.15 m below the RH2000 height system. The work of geo-referencing and coordinate conversion has been done by the Tyréns Company, Sweden.

Drillhole collar surveying was completed by Ludvika Kommun (“**LK**”) after the completion of the 2012 and 2014 drilling programmes. LK surveyed drillhole collar locations (X, Y, and Z), dip and azimuth using high resolution Real Time Kinetic (“**RTK**”) Global Positioning Systems (“**GPS**”). During the 2014 programme, LK also re-surveyed historic drillhole locations to confirm the translation of historic coordinates.

All coordinates and height data given in this report are in the projected reference system SWEREF99-TM + RH2000 minus 227.95 m.

12.2 Data Availability

12.2.1 Drill Hole Data

The license area has been investigated by several historic and recent drilling programmes.

Table 12-1 and give an overview of the scope of available data acquired from historic drillholes and drillholes from the 2012 and 2014 drilling programmes.

As part of the verification exercise, NIO has re-logged and re-assayed many of the located historical cores. In total, 45 drillholes from Blötberget were found in Malå and 15 at the former mine storage facility in Håksberg.

There has been re-logging of 31 of these cores (6036 m), 950 m of mineralisation has been re-sampled and re-assayed according to current industry practice and standards. This included mineralised core that had not been sampled historically as it fell below the (visual) historic cut-off grade of 35 %. Approximately 5-10 m of mineralised core was sampled beyond the boundaries of the historical sampled sections.

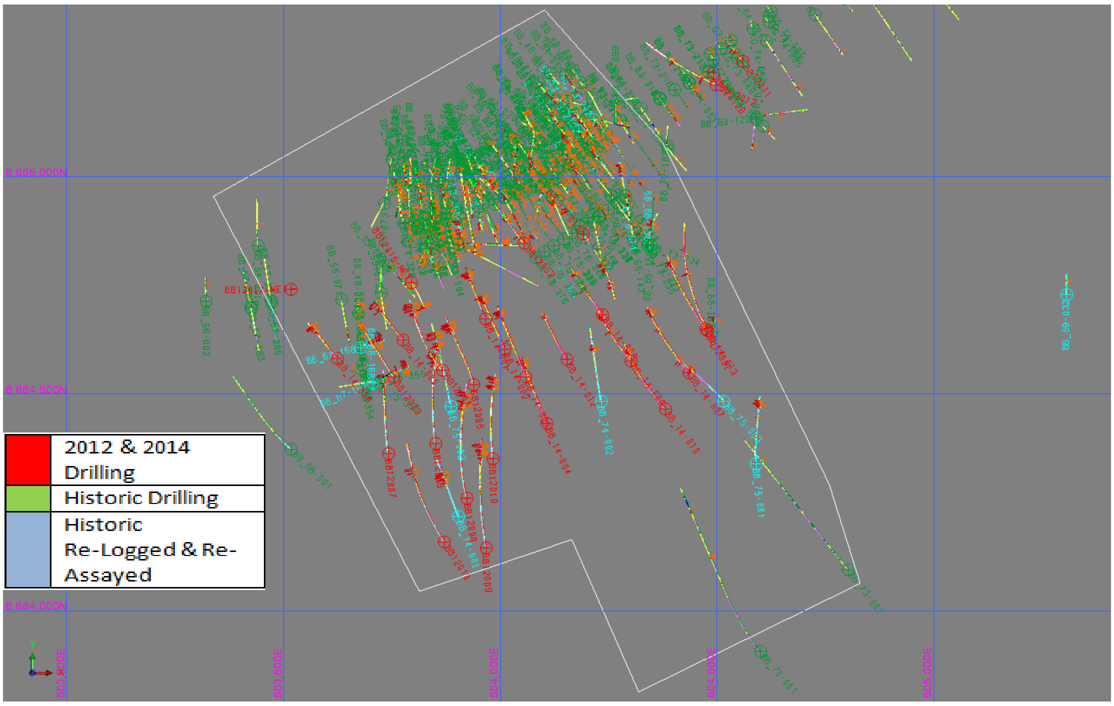


Figure 12-1 **Plan of drillholes in license area (white border)**

Source: DMT

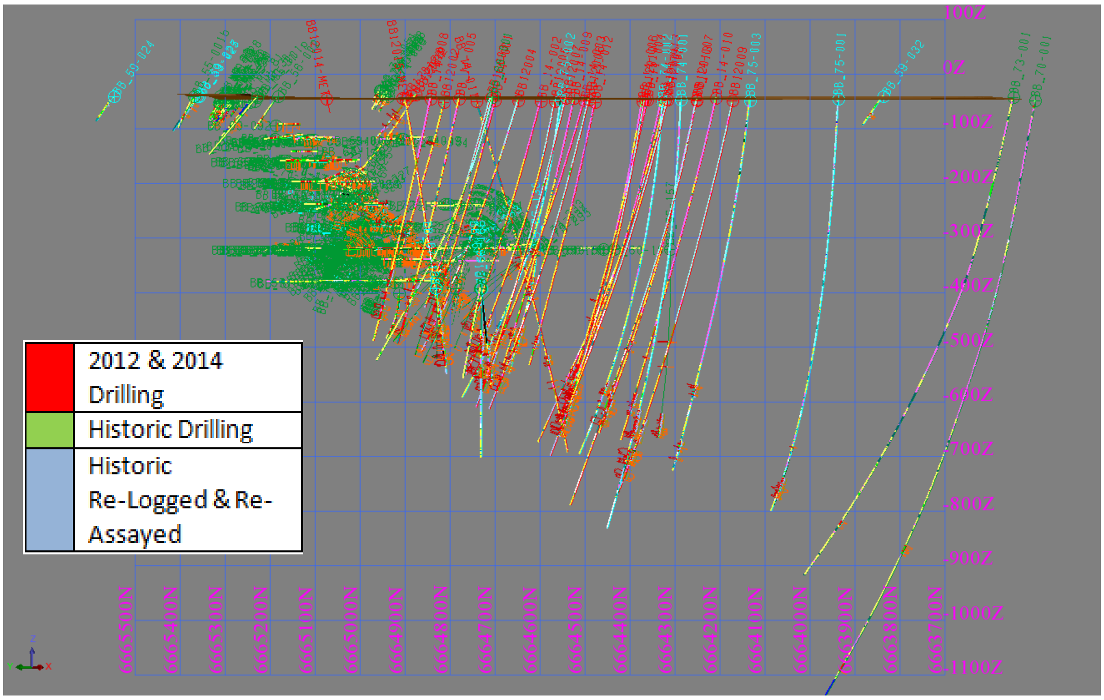


Figure 12-2 **Section View W-E (Direction 55°N) of drillholes**

Source: DMT

Table 12-1 Summary of data validation (drilling and sampling)

Type	Drillholes with known location and orientation	Metres drilled	Drillholes with down hole deviation data	Drillholes with geological data	Metres geologically logged	Drillholes with chemical data	Metres chemically analysed	Drillholes with magnetite analysis (SATMAGAN and mag sus)	Metres of magnetite analysis (SATMAGAN and mag sus)	Drillholes with density data	Metres of density data
Historic	391	32,750.59	8	161	19,389.61	329	6,036.61	13	326.32	22	703.14
Historic Re-logged / Re-assayed				29	6036	31	950	31	950	26	780
2012	16	7,426.05	16	14	7,385.65	13	621.55	13	600.25	13	620.00
2014	13	7,092.83	13	13	7,046.77	13	549.86	13	549.86	13	548.14
Total	**420**	**47,269.47**	**37**	**188**	**33,822.03**	**355**	**7,208.02**	**39**	**1,476.43**	**48**	**1,871.28**

Source: DMT

Table 12-2 Summary of drill hole data available in interpreted wireframes

Wireframes	Number of Drillhole Intersections	Metres of Drillhole Intersections	Sampled metres assayed by ALS	Metres with digitised Fe results	Total metres with Fe results	Sampled metres with SATMAGAN (Mg) analysis	Metres of density data
Hugget/ Flygruven	273	4806	769	2312	3081	769	714
Kalgruven	103	1579	447	571	1018	447	421
Sandell	18	121	18	73	91	18	18
Total	**394**	**6506**	**1234**	**2955**	**4190**	**1234**	**1153**

Source: DMT

12.2.2 License Area

The license area 'Blötbergsgruva K nr 1' (ID: 2010001141) held by NIO covers an area of 1.26 km². Table 12-3 shows the coordinates of the boundary line defining this license area. These coordinates are given in map datum SWEREF99-TM, as digitised by Tyréns, on behalf of NIO.

Ownership and license status has not been independently verified by DMT.

Table 12-3 Coordinates of licence area in map datum SWEREF99-TM.

Licence Area Boundary Point	Easting	Northing	Licence Area Boundary Point	Easting	Northing
1	504 319.11	6 663 813.90	5	504 102.01	6 665 384.70
2	504 164.88	6 664 164.89	6	504 374.64	6 665 079.13
3	503 813.46	6 664 045.65	7	504 758.10	6 664 293.09
4	503 338.52	6 664 955.53	8	504 829.87	6 664 064.04

Source: DMT

12.2.3 Topography

A Digital Terrain Model ("**DTM**") has been prepared by Tyréns, on behalf of NIO. This DTM is a triangulation based on contour lines with 5 m spacing. The morphology in the license area has a relatively low topographic range (-46 m to -36 m); predominantly on the -46 m, as illustrated in Figure 12-3.

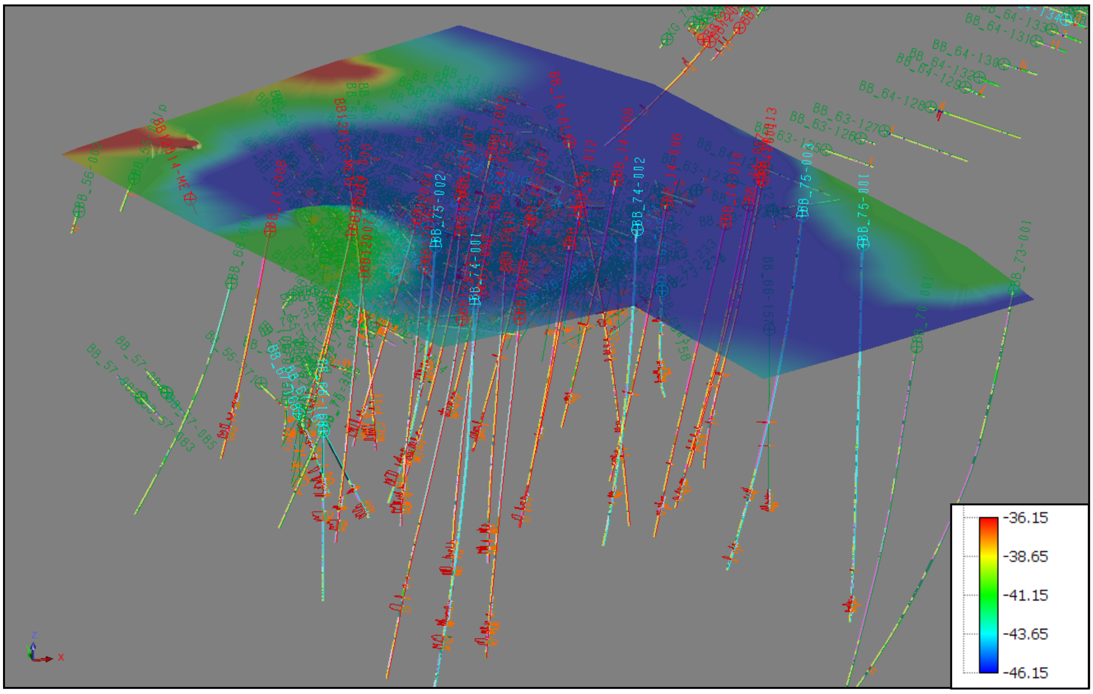


Figure 12-3 DTM of license area

Source: DMT

12.2.4 Historical Mine Maps & Sections

In accordance with Swedish mining regulations, 1:800-scale maps and level plans were kept updated, during historic periods of mining, and these have been scanned and georeferenced.

Only the horizontal maps have been ortho-rectified and imported into Surpac. The sections were only used for interpretation and were digitised by Tyréns on behalf of NIO (Figure 12-4 and Figure 12-5)

A tabulation of the historic geological maps and sections that have been utilised are given in Appendix B.

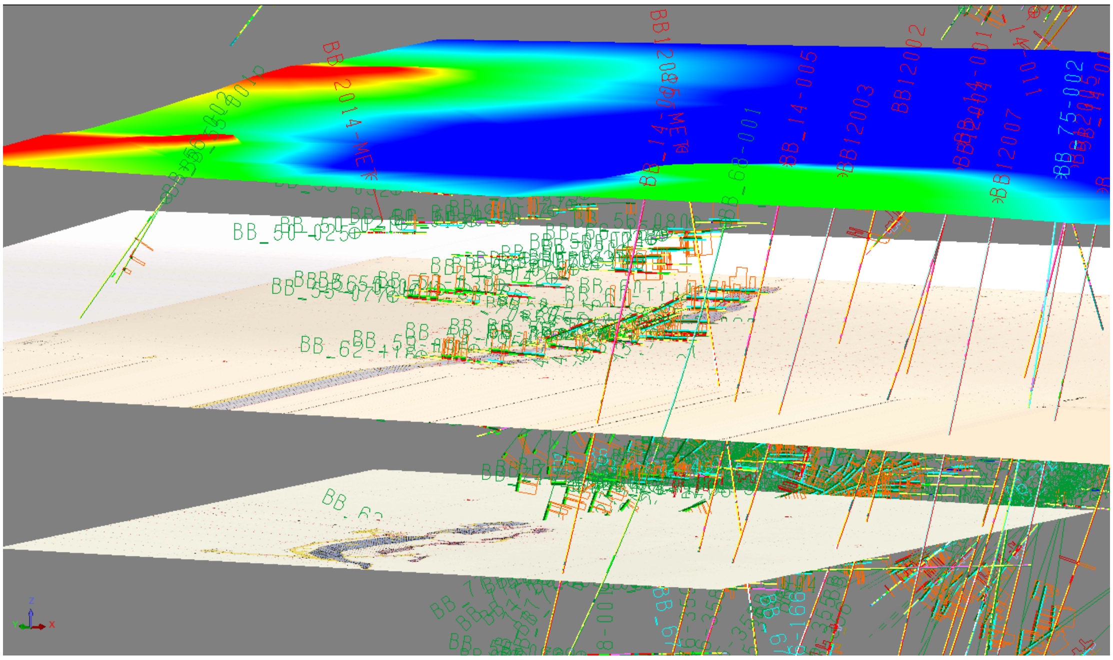


Figure 12-4 Geo-referenced historic level plans

Figure 12-5 Geo-referenced level plan within the wireframe

Geological maps and underground level mine plans have been used to estimate the maximum depth level of historical mining activities and the volume of mined out material.

This exercise was undertaken by NIO technical personnel and a surface was supplied to DMT showing the depth limit of mining activities (Figure 12-6).

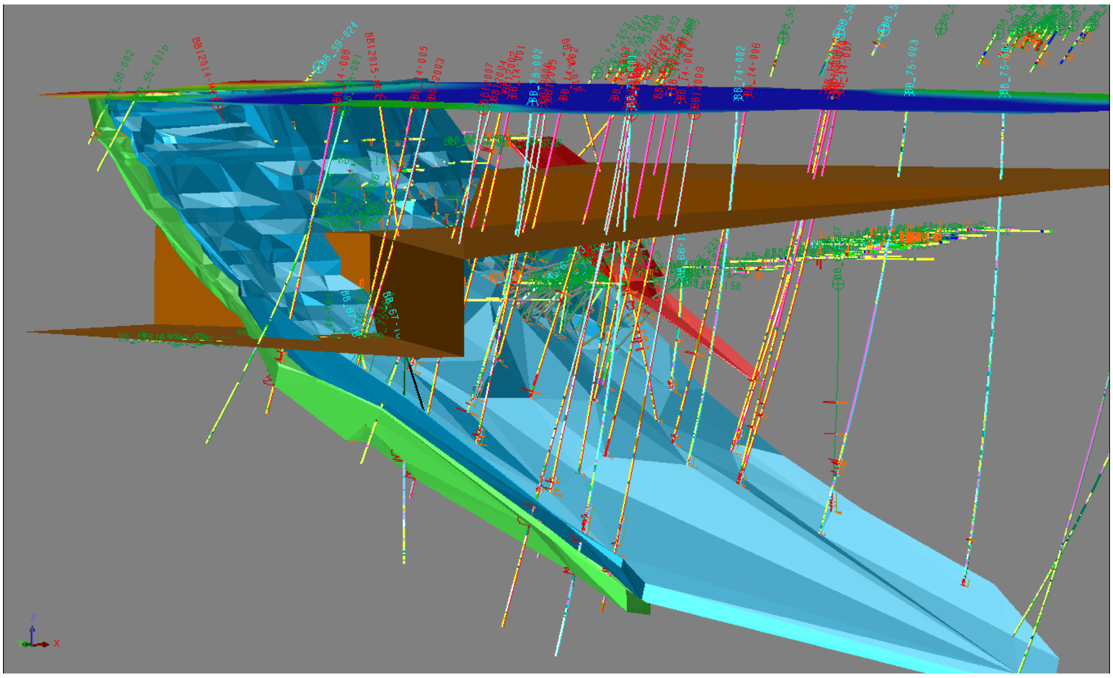


Figure 12-6 Topographical surface (dark blue) and lowest mined level (brown)

12.2.5 Drill Hole Locations & Orientation

Collar locations and elevations from the 2012 and 2014 drilling programmes have been surveyed by a registered surveyor contracted by NIO. Some differences were identified between surveyed collar elevation and elevation of topography of between 1 m and 3 m. This variance in elevation does not significantly affect the thickness of the respective wireframe and related domain intersections.

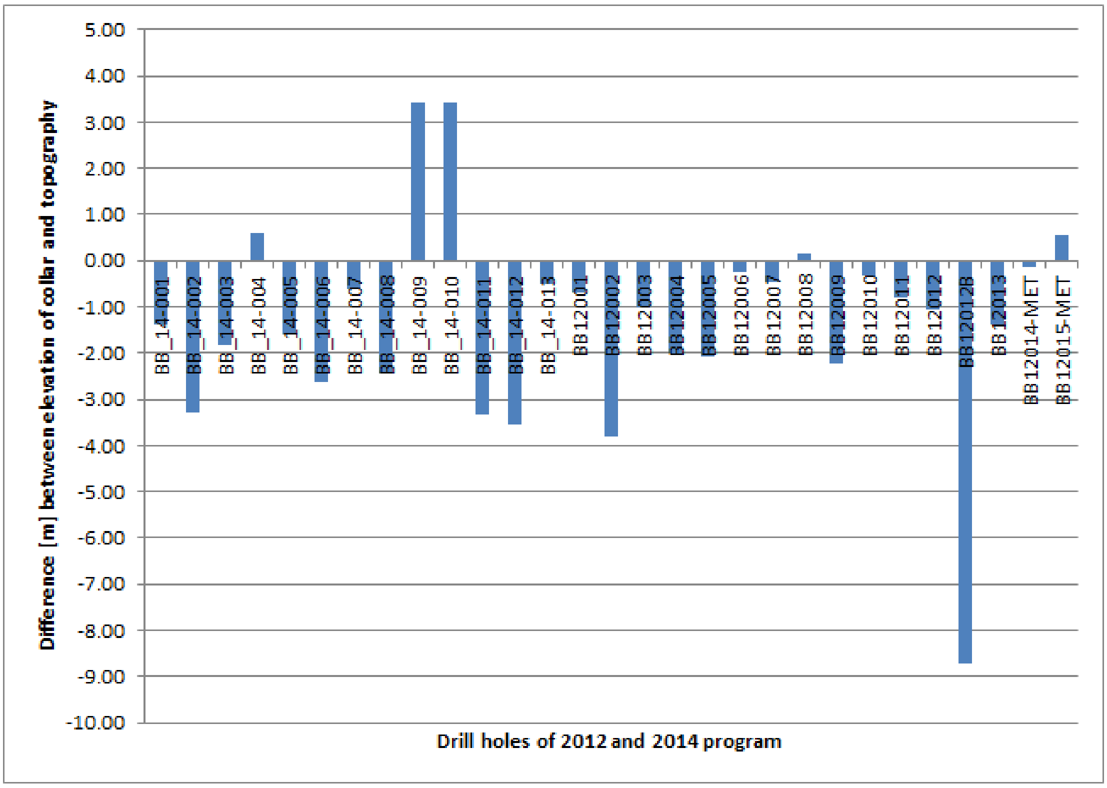


Figure 12-7 **Offset of surveyed surface collar elevation from terrain model**

Note: Negative values: collar elevation is below topography

Positive values: collar elevation is above topography

The collar locations, dips and azimuths of the underground historical drillholes, in all but a few instances, are very close to the information given in the historical protocols. The error in location is typically less than 0.5 m. For a small number of drillholes, no collar information has been found in the records. As a result, their locations have been taken from the plans.

12.3 Data Preparation & Management

All data from the historical and recent drilling programmes has been stored in an industry standard database software that includes the following information:

- Collar survey;
- Down hole survey;
- Geology (and abbreviation codes);
- Sampling;
- Laboratory assay data;
- Digitised chemical data;
- Magnetite data of SATMAGAN;
- Davis tube recovery;
- QA/QC sample set; and

- Bulk density.

The database has been rigorously checked by DMT for completeness and error for each drillhole and cross checked with the core photographs. All data have been exported and implemented into an industry standard (Geovia Surpac) modelling software package.

12.3.1 Drilling Recovery

Drilling recovery for the 2012 and 2014 drilling programmes is typically very close to 100 %. Consequently, any artificial bias caused by poor core and sample recovery can be excluded for the 2012 and 2014 drilled holes. For the historic drilling, no data relating to core recovery is available.

12.3.2 Historical Chemical Data

In total, 22 historical drillholes with chemical data of Fe and/or P were re-sampled and re-assayed. These drillholes have been used to verify the Fe and P data of historical drillholes (Table 12-4).

Table 12-4 Historical drillholes re-sampled

Item	Drillhole ID	Item	Drillhole ID
1	BB_59-101	12	BB_73-245
2	BB_59-103	13	BB_73-246
3	BB_64-134	14	BB_73-264
4	BB_66-138	15	BB_73-265
5	BB_66-157	16	BB_74-001
6	BB_66-166	17	BB_74-002
7	BB_67-167	18	BB_74-310
8	BB_67-168	19	BB_75-001
9	BB_73-236	20	BB_75-002
10	BB_73-241	21	BB_75-003
11	BB_73-242	22	BB_76-383

Figure 12-8 and Figure 12-9 show correlation plots comparing re-assayed Fe and P with historic Fe and P.

The data of Fe could be reproduced with an error of 12 %. No systematic error could be observed in the majority of the data. The data of P could be reproduced with an error of 40 %.

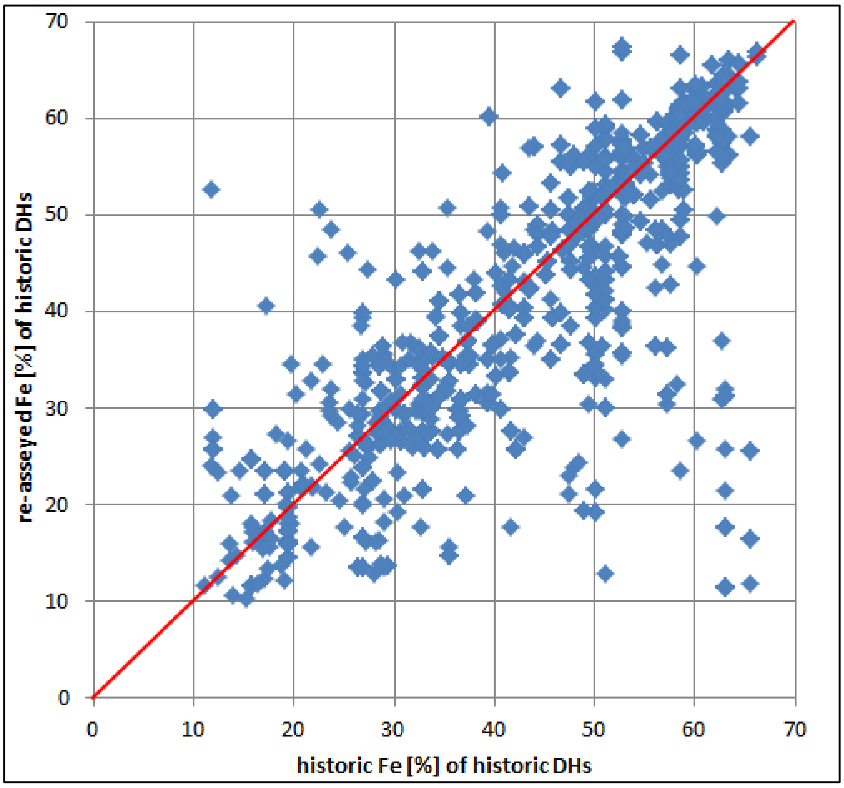


Figure 12-8 Correlation plot of re-assayed Fe vs. historic Fe

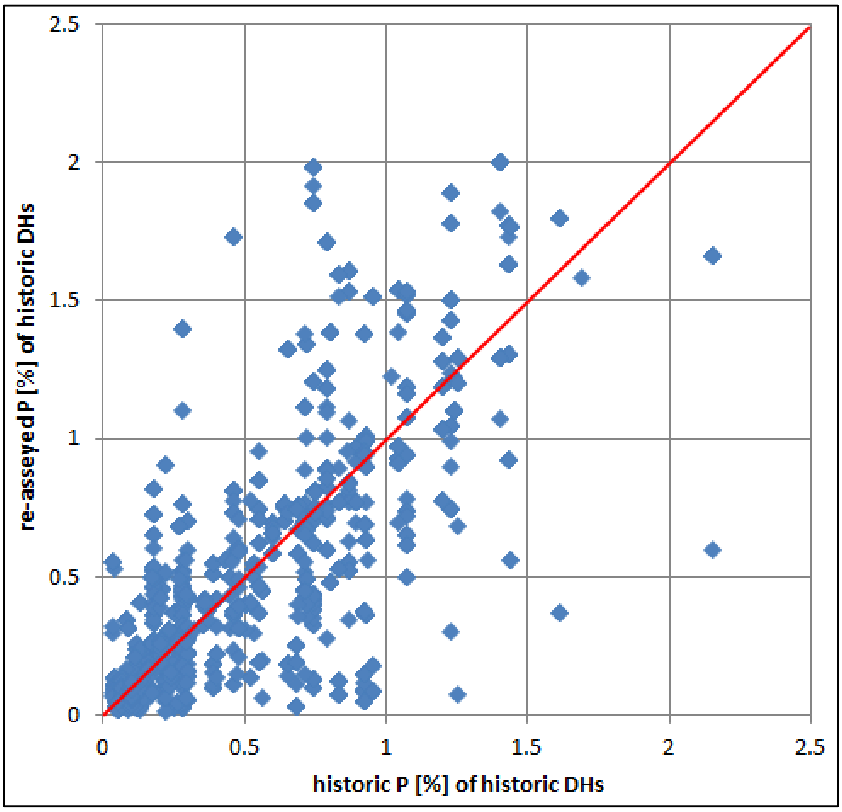


Figure 12-9 Correlation plot of re-assayed P vs. historic P

12.4 Comments on Data Quality

The accuracy and precision of applied sample preparation and assaying method has been verified by DMT and the resulting data for Fe, P and magnetite have been assessed as reliable and representative to be used in resource modelling.

While the historic Fe data are assessed as acceptable to be used in the resource model, the historic P data were not considered acceptable and were not used in the resource model and subsequent resource estimate.

The drilling recoveries from the 2012 and 2014 drilling programmes is close to 100 %. Consequently, sample or assay bias caused by poor core recovery is negligible.

A slight offset in sample location or orientation will not have any influence on the resource estimate.

No significant risks with the underlying data, used for mineral resource estimation, were not identified by DMT.

13 MINERAL RESOURCE ESTIMATE

13.1 Introduction

DMT has built a new resource block model for an updated MRE for the Blötberget Project.

The MRE has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 ("**the JORC Code**").

The geological model was prepared using an exploration database cut-off date of the 1st January, 2015. The resource estimate itself, has an effective date of the 30th January 2015, (issue date of 10th April 2015).

13.2 Geological Model

The geological interpretation has been based on the geological environment, deposit type and geological features controlling style and characteristics of the mineralisation.

The majority of the iron bearing lenses or zones at Ludvika are classified as magnetite rich lava flows, hosted by the Svecofennian, 1.91–1.89 Ga felsic metavolcanic rocks and generally form seam-shaped bodies. The flows are occasionally of pure magnetite, with additional detrital magnetite units assumed to be volcaniclastic sediments.

For the Blötberget area it is reported that the mineralisation relates to sub-aerial terrestrial volcanism. This has caused a partial oxidation of the primary magnetite mineralisation and hence produced large areas of martite (haematite formed after replacement of magnetite) mineralisation (*GeoVista Resource Estimate, January 2014*).

Prior to geological modelling, a series of cross sections were defined perpendicular to the strike direction of 55°N of all of the mineralised zones within the license area. Geological interpretation was carried out on cross sections at varying intervals dependant on drill spacing.

13.3 Wireframe Modelling

The interpretation followed the geological concept of a laterally continuous seam-like geometry, which is flexured along the dip direction of 145º with dips ranging from 50º at the surface to 35º at a depth of 800 m below surface.

Three main iron rich zones lie as narrow mineralised envelopes, from the upper (hanging wall) zone to lower (footwall) zone these three zones are referred to as:

- Sandell ("**SAND**");
- Hugget-Flygruvan ("**HUGFLY**"); and
- Kalvgruvan ("**KALV**").

Each of these zones required wireframe modelling for grade estimation purposes.

Individual hanging and footwall triangulated surfaces were created based on drillholes intersecting the mineralised zones and a set of underground maps of historic mining.

The surfaces were extended with half the distance to nearest drillhole as lateral limit of mineralisation. A fully enclosed 3D triangulated solid of each zone was achieved by cross-linking the boundary strings. A 15 % Fe cut-off grade has been applied to model the contacts of the mineralised zones. Some intersections did not show a composite grade above 15 % Fe. These low grade intersections were also included in the mineralised zone in order to honour the lateral continuity of the seam-like lava flow model.

The three solid models are representing the most optimistic envelopes which also consider waste material and low grade ore.

The shape and orientation of the mineralisation and the geological and mineralogical data (including dip and dip direction) suggest that there is no additional tectonic influence on the distribution of mineralisation.

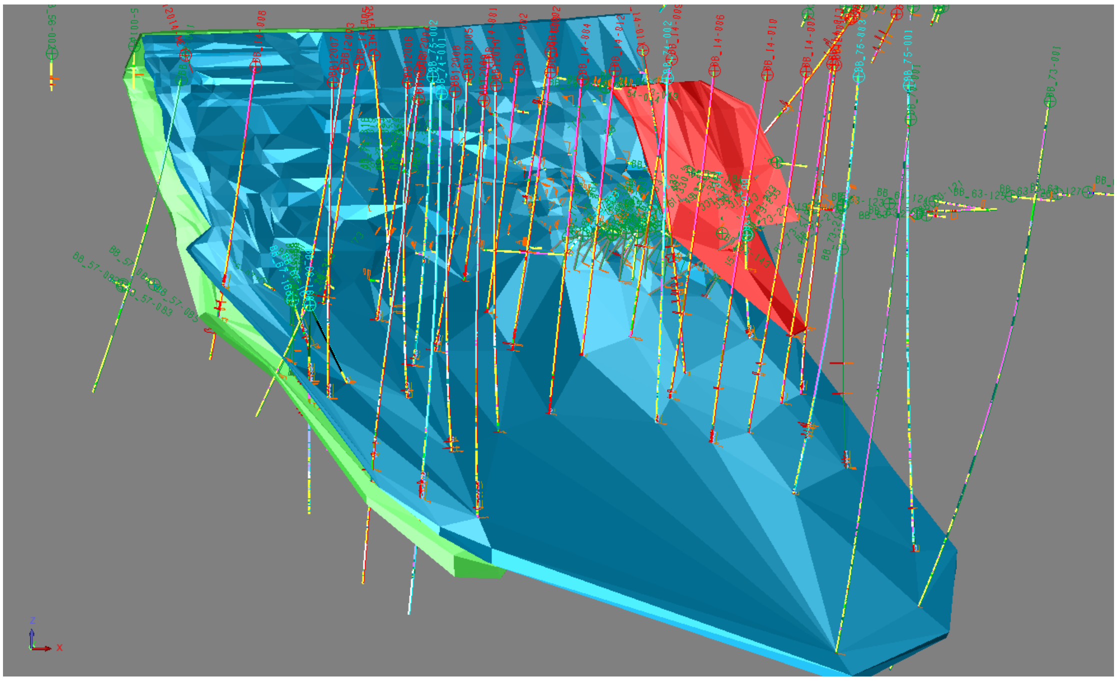


Figure 13-1 Wireframe 3D view North

Note: SAND (red), HUGFLY (blue), KALV (green)

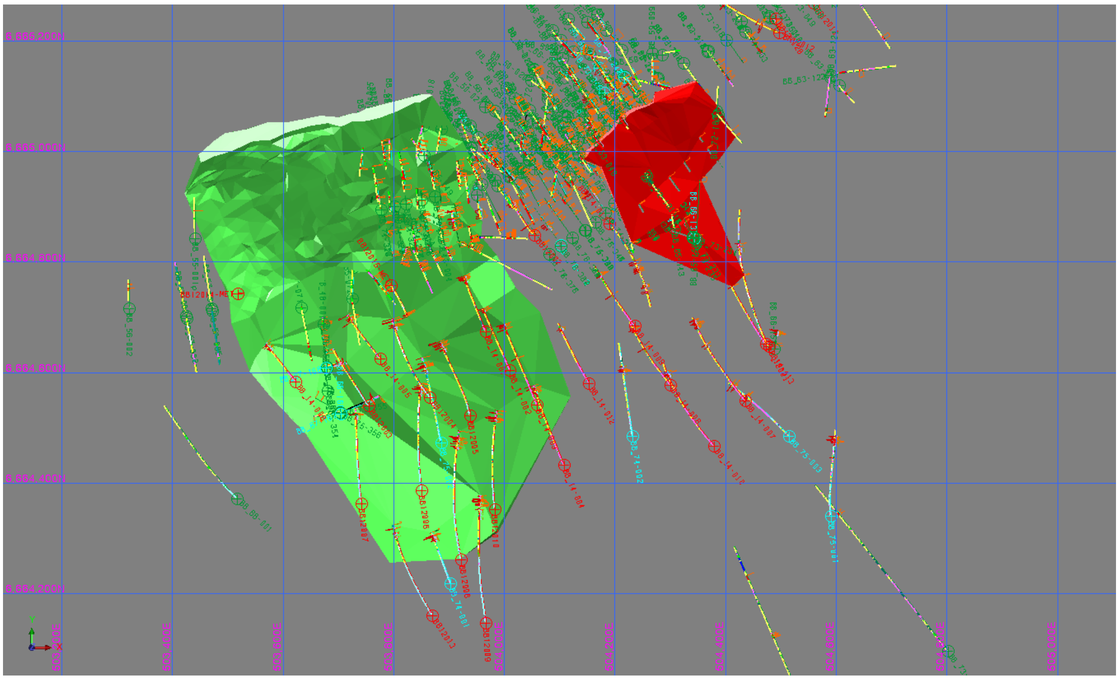


Figure 13-2 Wireframe 3D of the mineralised envelopes: (HUGFLY removed)

Note: SAND (red), HUGFLY (not shown), KALV (green)

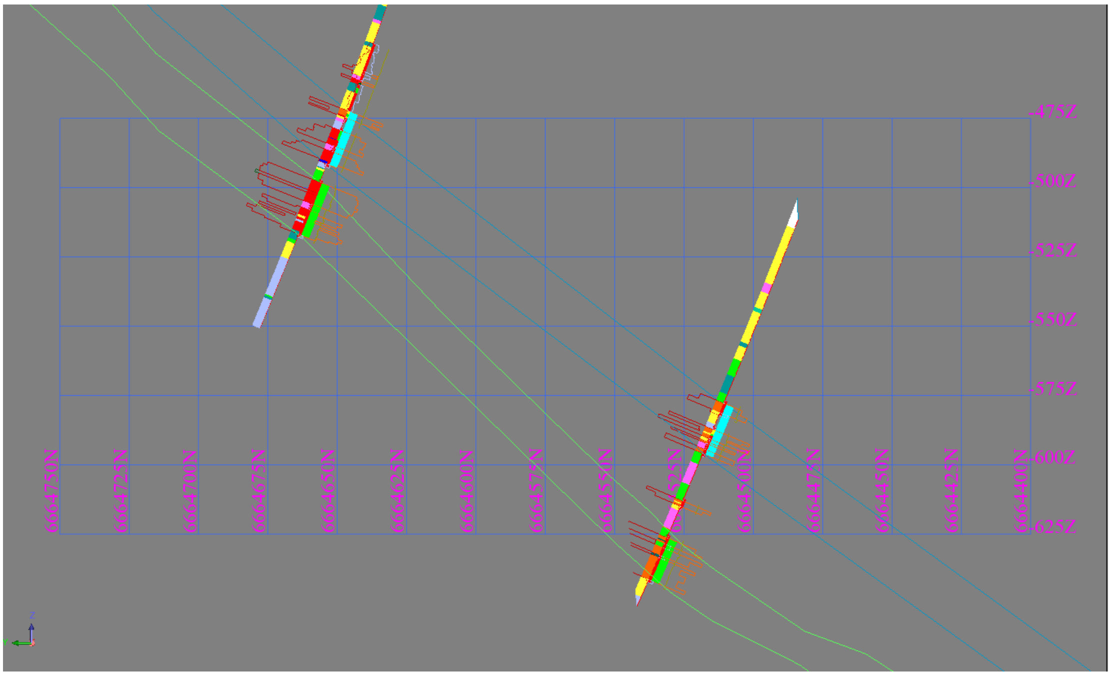


Figure 13-3 Cross section looking NE through HUGFLY

13.3.1 Topography

A DTM has been prepared by Tyréns (Sweden) on behalf of NIO. This DTM is a triangulation based on contour lines with 5 m spacing. The morphology in the license area has a relatively low topographic range (-46 m to -36 m), predominantly on the -46 m.

13.3.2 Weathering Profile

It is assumed that there is no weathering profile affecting the current geological model.

13.4 Resource Database

Table 13-1 Summary of drillholes and data used in the Resource Estimate

Wireframe domain	Number of Drillhole Intersections	Metres of Drillhole Intersections	Sampled metres assayed by ALS	Metres with digitised Fe results	Total metres with Fe results	Sampled metres with SATMAGAN (Mg) analysis	Metres of density data
Hugget / Flygruvan	273	4806	769	2312	3081	769	714
Kalvgruvan	103	1579	447	571	1018	447	421
Sandell	18	121	18	73	91	18	18
Total	394	6506	1234	2955	4190	1234	1153

13.5 Statistical Analyses & Geostatistics

Based on the wireframes of HUGFLY, KALV and SAND, univariate and bivariate statistical analyses were carried out in order to investigate the non-spatial element distribution (histograms) and inter-element relationships (correlation plots).

A correlation plot of magnetite and iron (Fe) demonstrates that the magnetite of KALV follows a regression equation based on the Fe grade:

$$\textbf{Magnetite \%} = 0.0047 * \textbf{Fe \%}^2 + 1.1142 * \textbf{Fe \%} - 2.7834$$

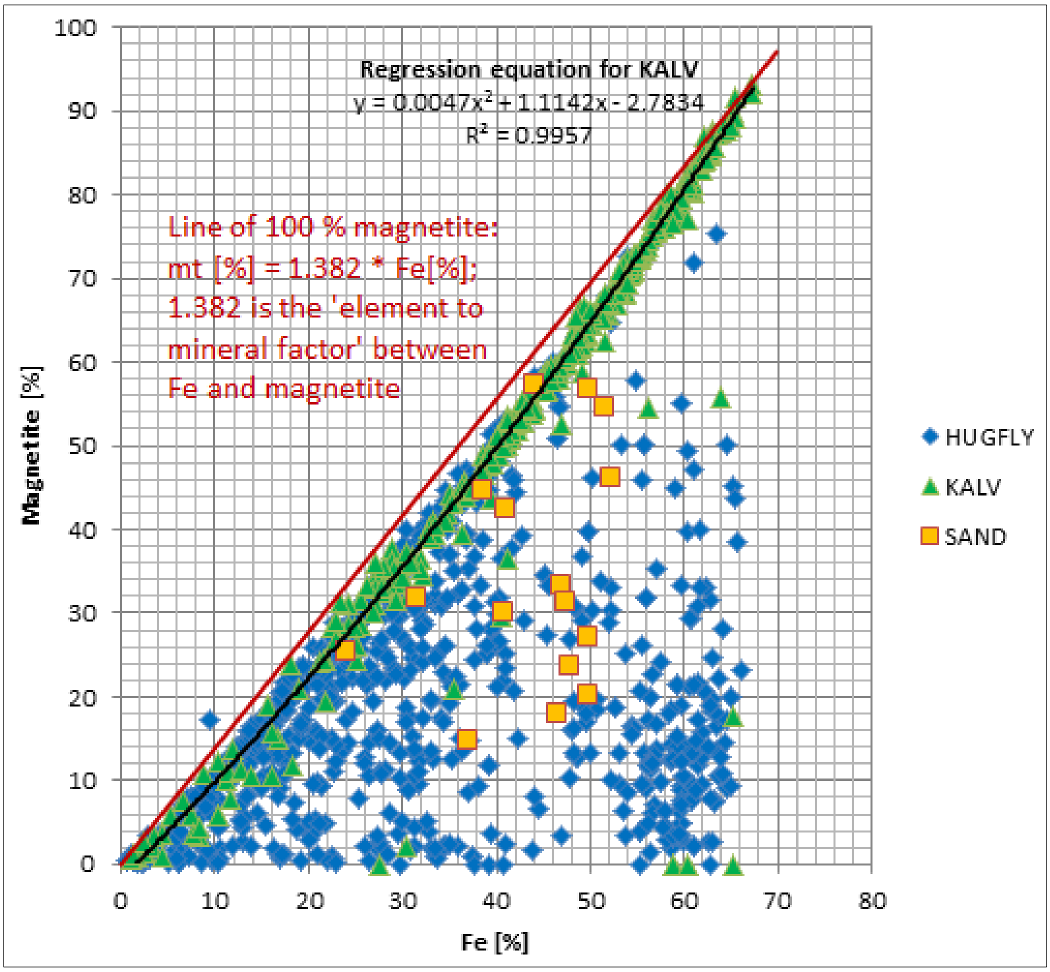


Figure13-4 Correlation Plot of Blötberget Magnetite and Iron

Figure13-4 also demonstrates that the magnetite-hematite ratios of HUGFLY and SAND do not follow a regression line but are varied in their distribution. This effect has been discussed in former reports on the Blötberget field. According to these reports, oxidation of the primary magnetite material has produced large areas of martite mineralisation (haematite formed after replacement of magnetite).

The oxidisation relationship is also shown in the histograms of Fe and magnetite given in Figure 13-6 and Figure 13-7.

The Fe at KALV shows normal distribution since most of the Fe is bound to magnetite. Oxidisation of the HUGFLY and SAND zones causes a bimodal distribution of Fe bound to primary magnetite and Fe bound to martite (as an oxidisation product of magnetite). Consequently in KALV, magnetite is more highly concentrated than in HUGFLY or SAND (Figure 13-6).

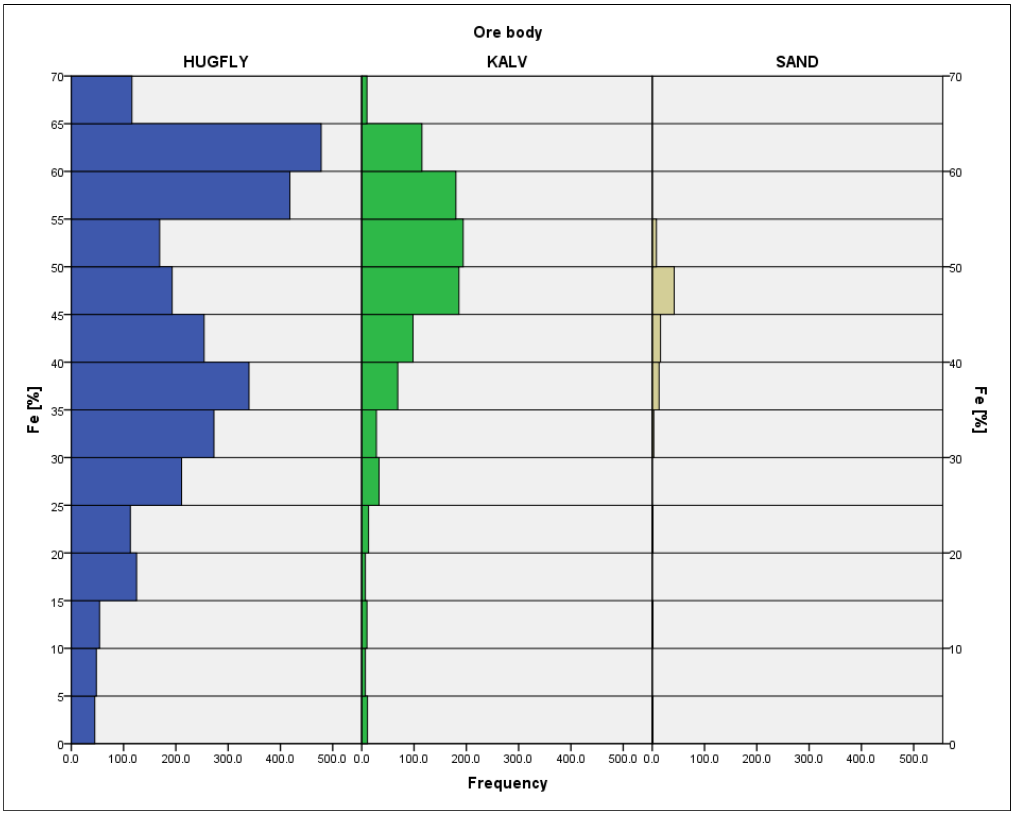


Figure 13-5 Histogram of Fe for HUGFLY, KALV and SAND

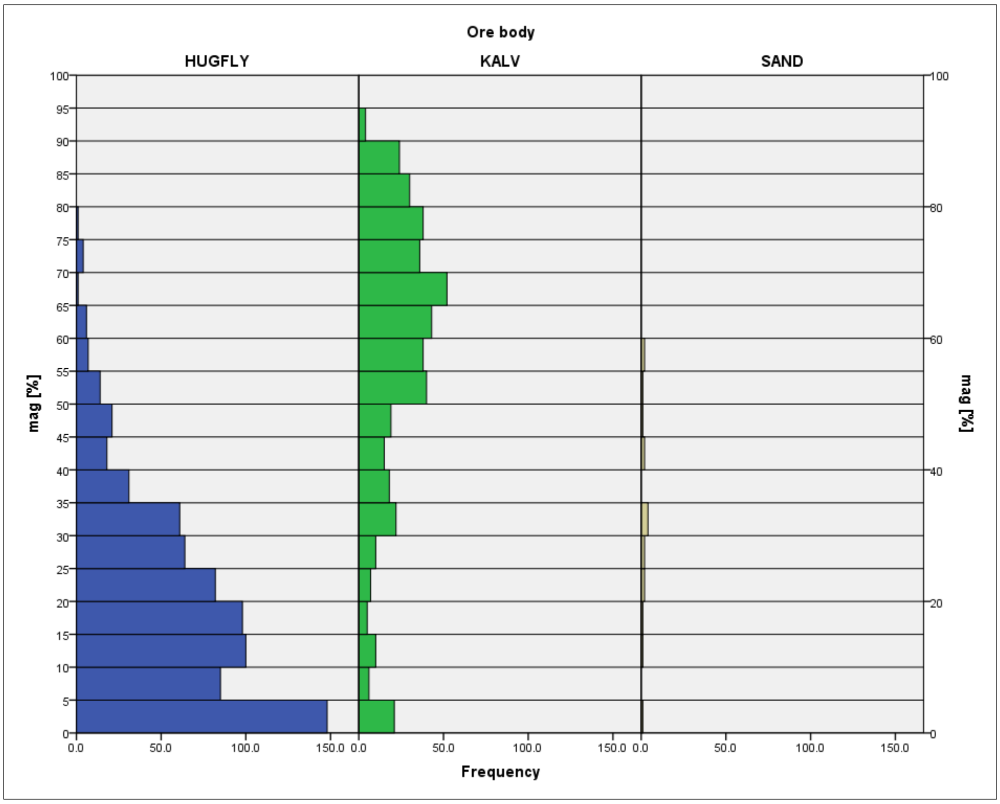


Figure 13-6 **Histogram of magnetite for HUGFLY, KALV and SAND**

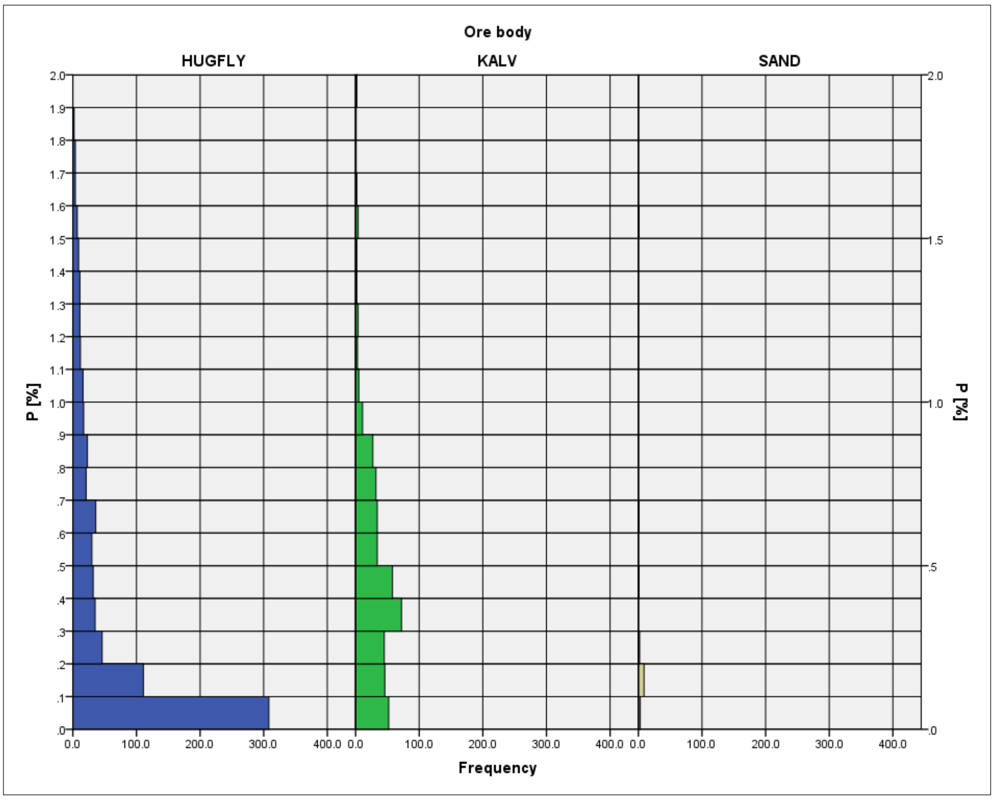


Figure 13-7 **Histogram of P for HUGFLY, KALV and SAND**

13.5.1 Bulk Density

The bulk density determined by the levels of magnetite and hematite and thus with the grade of total Fe bound to magnetite and hematite. Based on this approach, a regression equation has been used which allows a bulk density to be calculated from the Fe grade:

Density = 0.0003 * Fe %² + 0.0157 * Fe % + 2.6605

All blocks of the block model which have a minimum volume portion of wireframe HUGFLY, KALV or SAND of 0.1 % have been attributed with its associated bulk density using the regression equation stated above.

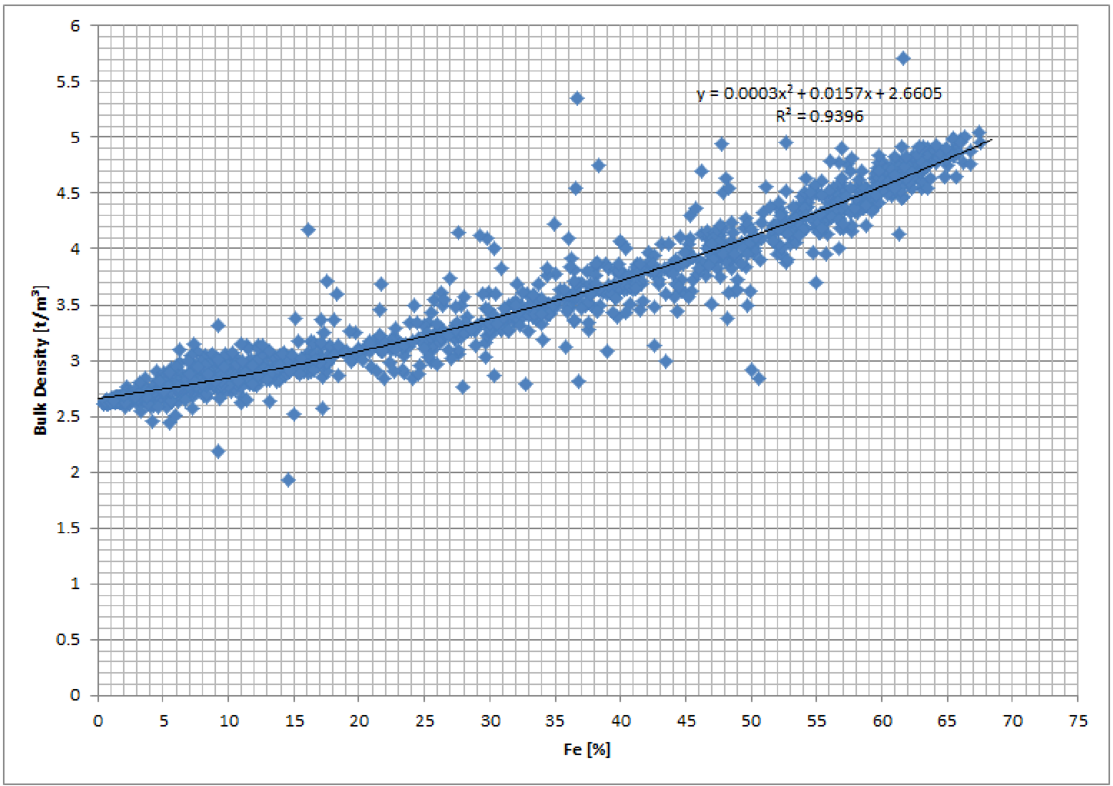


Figure 13-8 Correlation/regression curve of bulk density vs. assayed Fe grade (1744 samples)

13.5.2 Grade Capping

Histograms for Fe, magnetite and P have been checked for isolated high grades ("**outliers**"). No outliers which could bias the interpolation have been found, hence an upper grade cut has not been applied to the dataset.

13.5.3 Compositing

Compositing ensures that all assays will have the same influence on geostatistical analyses and interpolation.

A total of 90 % of all samples are less than 4.5 m in length. However, most parts of the model are covered by the samples recovered from the 2012 and 2014 drill programmes which have a shorter sampling interval. A total of 90 % of all these later samples are less than two metres in length. This two metres sample length has been defined as the optimal composite length based on the frequency distribution of lengths of all samples from obtained from the 2012 and 2014 drilling programmes.

In previous estimates no sample grade has been assigned to internal waste or other 'barren' country rock intervals. Equally, other intervals which historically have not been sampled or assayed for Fe have been assigned a nominal grade of contained iron. DMT has calculated a grade of 8 % Fe to be applied as the average grade of all other country and waste rock sampled and assayed in the mineralised zones of HUGFLY, KALV and SAND.

Intervals not assayed for phosphorus were not assigned a grade for phosphorus.

After tagging mineralised zones into the database, composite samples were prepared from assays by using a downhole compositing tool in Surpac, and tagged to the three main mineralised zones of HUGFLY, KALV and SAND. Sample lengths have been used by DMT as a weighing factor. Chemical grades of Fe, magnetite and P have been composited. The composite is accepted for the interpolation phase if 50 % of a two metre target length is achieved.

Table 13-2 Percentiles of sample lengths

Percentiles	All samples [3,804]	Historic samples [2,089]	Re-assay and 2012/14 samples [1,715]
10	0.60	0.44	0.80
20	0.95	0.75	1.00
30	1.00	1.12	1.00
40	1.00	1.58	1.00
50	1.30	2.05	1.00
60	1.75	2.60	1.10
70	2.10	3.27	1.31
80	2.90	3.95	1.80
90	4.18	5.58	2.00

13.5.4 Mineralisation Continuity & Variography

Variography studies of the composite data were carried out to support the mineral resource estimation work.

As there is distinction between the magnetite-rich ore in KALV and the hematite-rich ore in HUGFLY/SAND, variography has been carried out for Fe in KALV and in HUGFLY/SAND separately.

The variograms of Fe in KALV and in HUGFLY/SAND indicate that the ranges and the sills are very similar (Table 13-3). This implies a similar spatial distribution of Fe in the magnetite-rich KALV and the hematite-rich HUGFLY and SAND.

For KALV, the magnetite has been calculated based on the regression equation established previously. There appears to be no correlation between Fe and magnetite in HUGFLY and SAND, hence magnetite has be interpolated separately from Fe in HUGFLY and SAND.

Omni-directional variography has been undertaken for all composite data of each ore type (domains) separately with a spatial orientation of -45 degree dip and 145 degree dip direction (strike N55°E). Attempts at directional variography were unsuccessful due to the sparse data within the modelled domains which prevented meaningful interpretation and accurate modelling.

All omni-directional variograms for hematite (Fe) and magnetite (Mag) show reasonable structure, allowing reliable variogram models to be produced (Figure 13-9, Figure 13-10 and Figure 13-11).

For the variography analysis of Phosphorous, all sub-domains have been combined into a single domain on which to undertake the geostatistical study, due to the limited data in some of the domains. The nugget and ranges are relatively easily generated, providing an appropriate level of confidence. All variograms were modelled using a fixed nugget effect of 0 which is appropriate for this continuous, seam-like iron deposit.

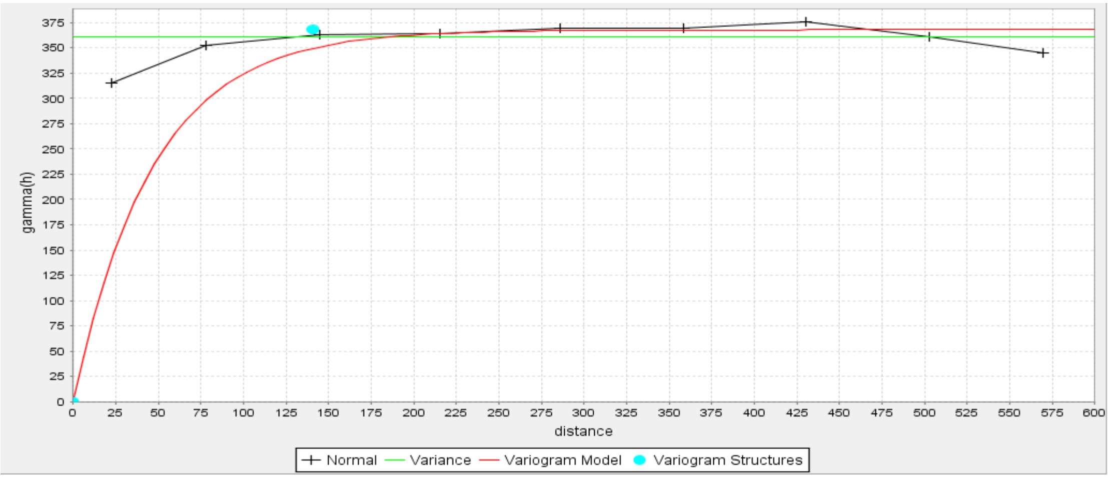


Figure 13-9 Variogram of Fe in HUGFLY/SAND

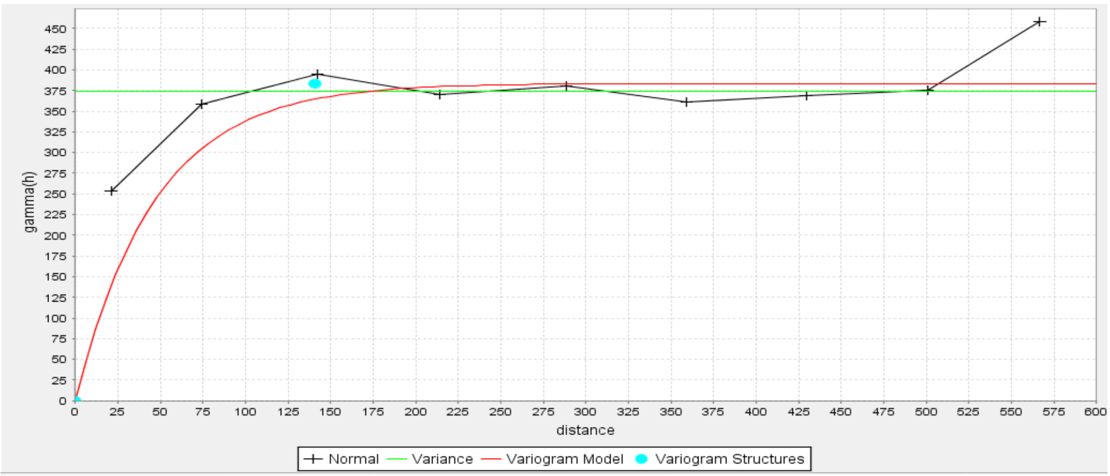


Figure 13-10 Variogram of Hematite in KALV

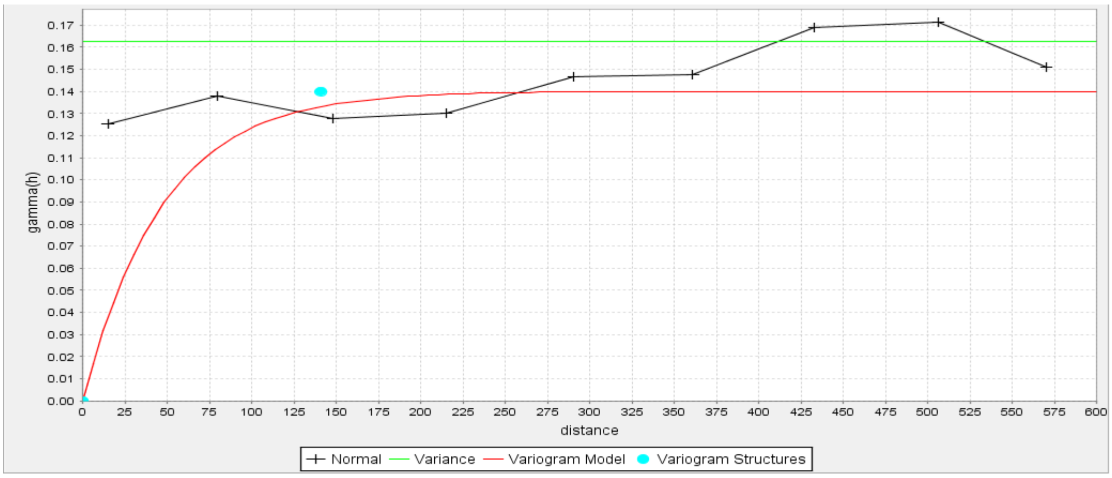


Figure 13-11 Combined domain variogram of P in all zones

Table 13-3 Nugget, sill and range from variograms for Hematite (Fe), Magnetite (Mag) and P

Zone	Nugget	Sill	Range
Fe in HUGFLY and SAND	0	367	140
Fe in KALV	0	380	140
Mag in HUGFLY and SAND	0	175	140
P in HUGFLY, SAND and KALV	0	0.14	140

13.5.5 Interpolation Search Parameters & Grade Interpolation

The variography results allowed for grade estimates for each of the two modelled domains of magnetite-rich ore of KALV and hematite-rich ore of HUGFLY and SAND to be performed using Ordinary Kriging ("**OK**"), applying hard boundaries to the two different estimation domains.

OK has been carried out in three passes for each domain, and the search ellipse parameters for the individual domains are included in Table 13-4.

OK is used to inform the parent cells, with a discretisation of 10 × 5 × 10 in the X, Y, and Z directions respectively. The dip and rotation of the ellipse has been adapted to the overall dip and strike of the domains. The dip direction of major axis has been set to 152°. To honour the curved structure of the domains perpendicular to strike direction, the dip of the major axis has been set to 35° above -400 m and to 50° below -400 m.

The first search uses the 2/3 variogram range, the second search is double this, and the third search is four times the size. These multiple searches ensure all blocks within the modelled mineralised domains are interpolated a grade value. The minimum number of samples was set to three and the maximum number of samples was set to 15 (Table 13-4).

Grade has been estimated into the block model with properties as described in Section 13.8.

Table 13-4 Search parameters for each of the applied passes of OK

Parameter	Max -Major Search Distance m	Max-Major / (Minor) Search Ratio m
1st Pass	100	16 (=6.25)
2nd Pass	200	8 (=25)
3rd Pass	400	4 (=100)

13.6 Resource Classification

The definitions for resource categories used in this report are consistent with the JORC Code 2012.

Under the JORC classification system, a Mineral Resource is defined as:

…"a concentration or occurrence of natural, solid, inorganic or fossilised organic material in or on the Earth's crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction.

"The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling."

Resources are classified into Measured, Indicated and Inferred categories based upon geological knowledge and confidence (Figure 13-12).

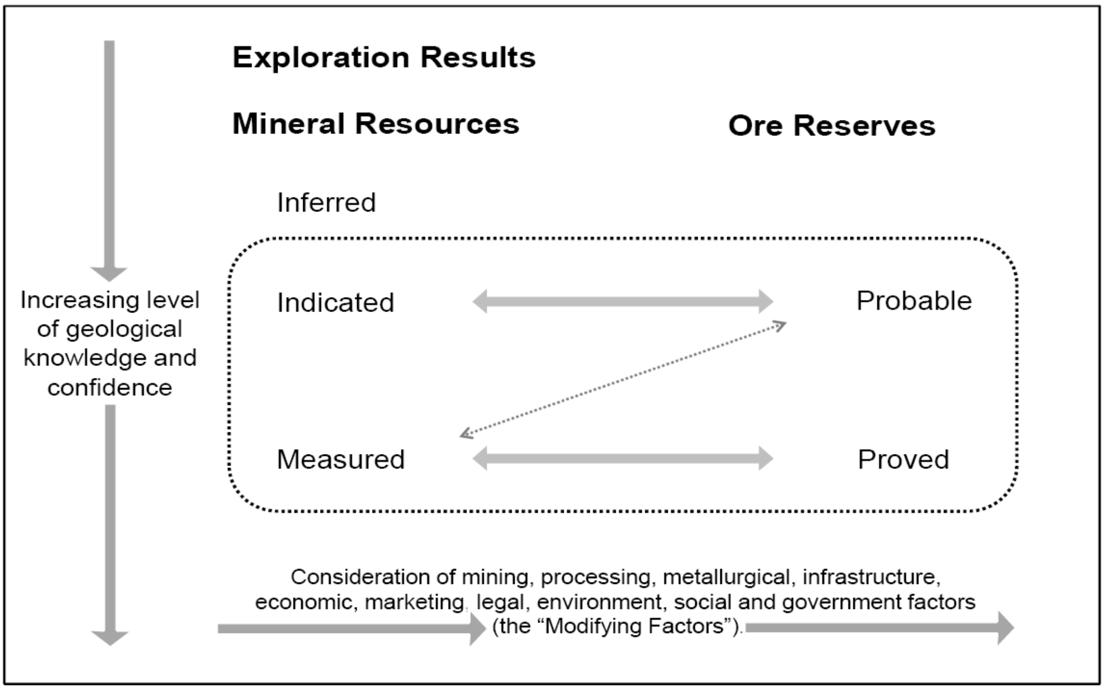


Figure 13-12 Relationship between Exploration Results, Mineral Resources & Ore Reserves

Resource classification within mineralisation envelopes is generally based on drillhole spacing, grade continuity, and overall geological continuity. The distance to the nearest composite and the number of drillholes are also considered in the classification.

In classifying the resource estimate, the following key factors have been considered:

- Confidence in data quantity and specifically sample spacing of Fe and magnetite data;
- Confidence in the geological interpretation and continuity (geological complexity); and
- Confidence in mineralisation / grade continuity (complexity of spatial grade distribution).

Considering the above, the following criteria have been applied for classification into the various mineral resource categories for this estimate:

13.6.1 Measured Resources

- All blocks whose distance to the nearest magnetite sample is less than 2/3 of the variogram range (i.e. <100 m) - excluding distally located drill hole BB_75-001.
- All blocks which are surrounded by measured blocks; and
- All blocks near the historic underground workings.

13.6.2 Indicated Resources

- All blocks whose distance to the nearest magnetite sample is equal or above 90 m and less than the full variogram range of 140 m - including distally located drill hole BB_75-001.

13.6.3 Inferred Resources

- All blocks which are not defined as Measured or Indicated but are included in the interpreted wireframes.

13.7 Preliminary Economic & Mining Assumptions

Initially, DMT did not apply any economic cut-off grades or mining criteria to the global resource estimate which was generated within the confines of the wireframes.

DMT used the wireframes and a set of technical and economic input assumptions, summarised in Table 13-5, to create a preliminary block model, using Geovia Surpac software, in order to constrain the estimated Mineral Resources and to demonstrate reasonable prospects for eventual economic extraction.

Commodity price assumptions are based on typical China import sales, over the past five years, of iron ore fines (62 % Fe) (Figure 13-13).

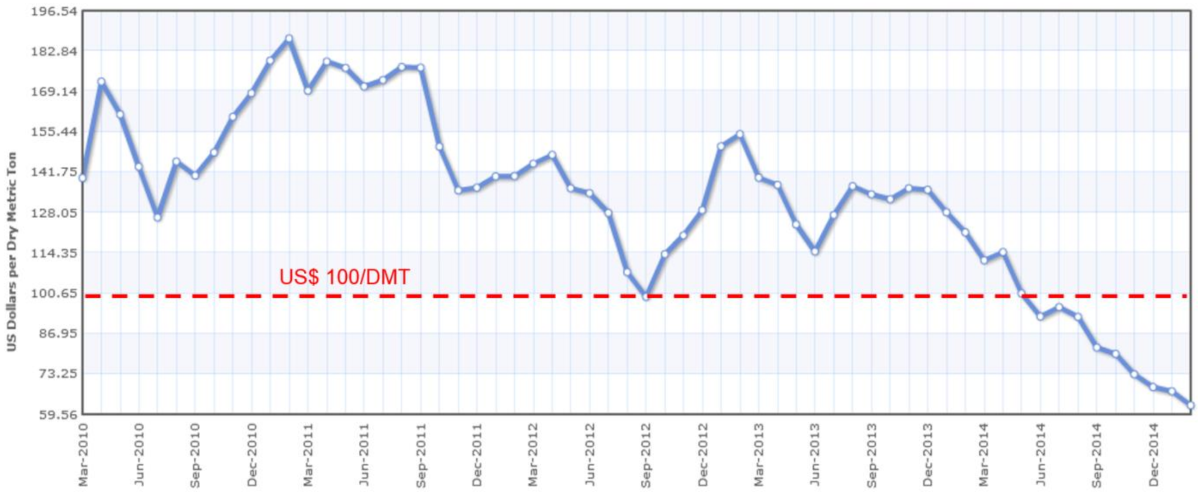


Figure 13-13 Five year historic China import spot price (FR Tianjin port)

Source: Index Mundi

Using preliminary economic input parameters for the proposed mining method, processing and selling-related costs (Table 13-5), the cut-off grade has been estimated by applying the below formula:

$$\frac{\text{Costs for mining plus processing [US\$/t ore]}}{\left(\frac{\text{Price of concentrate [US\$/t conc]}}{\text{Fe grade of concentrate [Fe[\%]/t conc]}}\right)} * \frac{1 + \text{Dilution [fraction]}}{\text{Processing recovery [fraction]}} = Fe\ Cutoff\ grade$$

Table 13-5 Block Model preliminary economic input parameters

Parameter	Cost/Value t/Revenue
Costs for mining plus processing [US$/t ore]	20
Price of concentrate [US$/t conc.]	100
Fe grade of concentrate [Fe[%]/t conc.]	63
Dilution [fraction]	0.1
Processing recovery [fraction]	0.9

The wireframe shells provide a constraint for the reported block model resources based on the JORC definition of Mineral Resources having “reasonable prospects for economic extraction”.

When the basic economic input parameters (Table 13-5) are applied to the wireframes, an indicative COG of 23 % Fe is arrived at.

A tonnage / grade sensitivity study has been carried out by DMT at COGs ranging from 0 % to 60 % Total Fe (Table 13-6). A COG of 25 % has been highlighted as this is the nearest rounded up percentage COG.

Table 13-6 Fe grade cut-off sensitivity results

Fe cut-off %	Volume Mm^3	Tonnage Mt	Density t/m^3	Fe %	Magnetite %	Hematite %	Magnetite proportion %	Hematite proportion %	Phosphorous %
0	17.2	62.2	3.6	36.2	31.6	19.0	0.62	0.38	0.46
5	17.2	62.2	3.6	36.2	31.6	19.0	0.62	0.38	0.46
10	16.9	61.3	3.6	36.6	31.9	19.3	0.62	0.38	0.46
15	16.2	59.1	3.7	37.5	32.7	19.8	0.62	0.38	0.47
20	14.6	54.3	3.7	39.2	34.2	20.7	0.62	0.38	0.48
25	**12.5**	**47.8**	**3.8**	**41.5**	**36.1**	**22.0**	**0.62**	**0.38**	**0.51**
30	10.5	41.1	3.9	43.8	38.4	22.9	0.63	0.37	0.54
35	8.4	33.8	4.0	46.2	41.3	23.3	0.64	0.36	0.57
40	6.4	26.2	4.1	48.7	44.9	23.1	0.66	0.34	0.60
45	4.1	17.7	4.3	51.6	48.6	23.5	0.67	0.33	0.60
50	2.1	9.2	4.5	55.5	51.8	25.7	0.67	0.33	0.64
55	1.0	4.6	4.6	58.7	54.5	27.6	0.66	0.34	0.70
60	0.3	1.6	4.8	61.5	58.6	27.3	0.68	0.32	0.66

Note: For Measured and Indicated Resources only

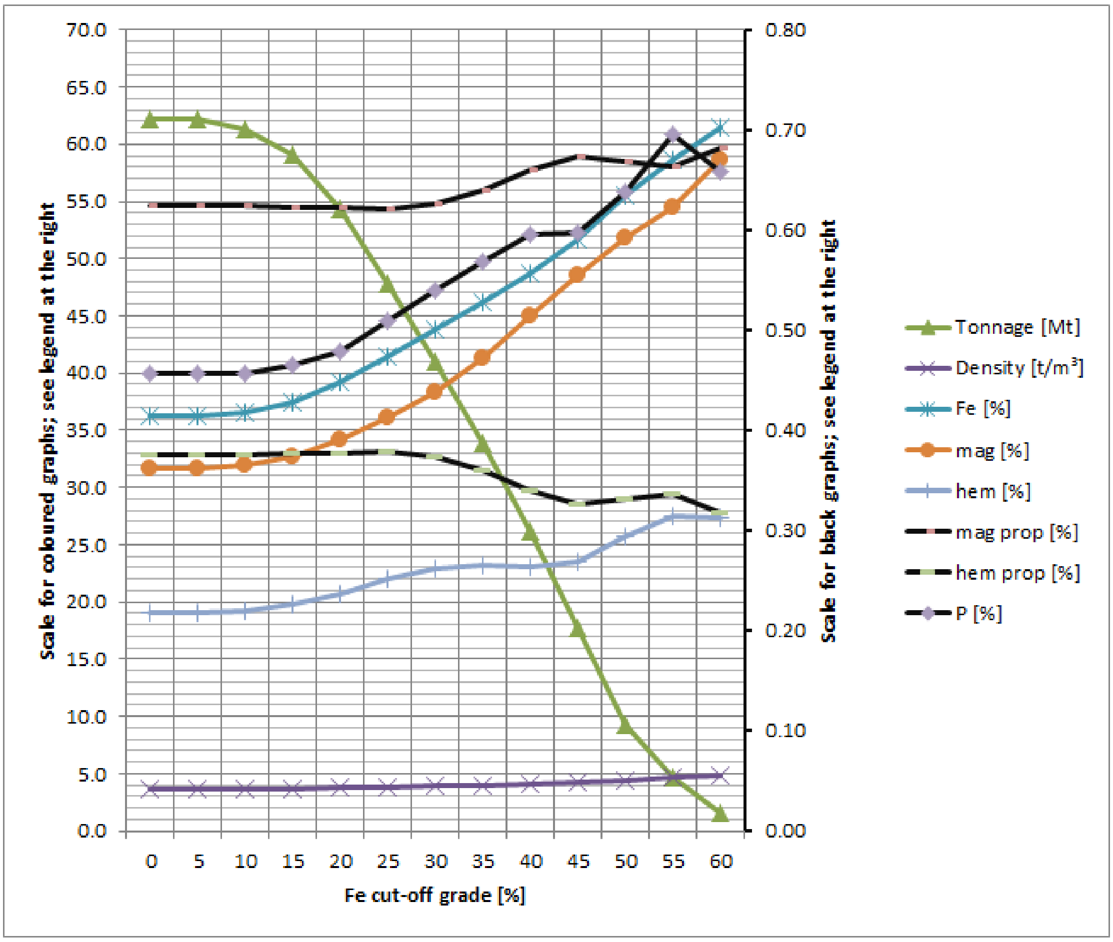


Figure 13-14 Resource Grade-Density-Tonnage Curves

13.8 Block Model

The block model uses regular block size of 10 m length (x), 5 m width (y) and 10 m height (z). These block dimensions are considered to be the most appropriate, considering the geometry of the mineralisation and the proposed mining method. The block model is rotated to the same strike as the mineralisation, N55°E.

The maximum dimensions of the block model are 1,540 m along strike and 1,940 m perpendicular to strike (down-dip); adapted to the drilled area and license area. The total elevation ranges from 200 m to -1,200 m. The total number of blocks is 427,525. No sub-blocking is applied.

Attributes have been added to the block model and populated. Detailed explanations about the attributes are given in Appendix A of this report.

For all blocks lying within or intersected by the HUGFLY and SAND wireframes, a partial percentage attribute has been created named 'ore_oxidized_perc'. This attribute adds a volume portion ranging from 0.000 to 1.000 (i.e. 0-100 %) to each block lying within or intersected by these wireframes, which has been used for volume correction in the resource estimate (Figure 13-15).

For all blocks lying within or intersected by the KALV wireframe, a partial percentage attribute has been calculated named 'ore_non_oxidized_perc'. This attribute adds a volume portion ranging from 0.000 to 1.000 to each block lying within or intersected by this wireframe, which has been used for volume correction in the resource estimate.

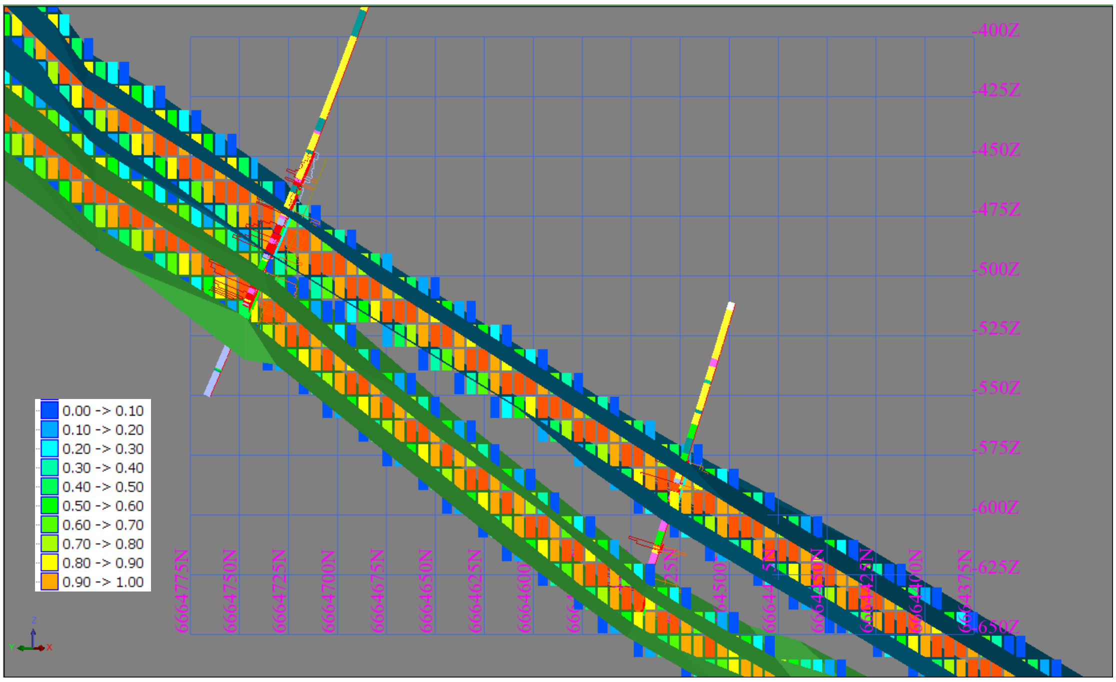


Figure 13-15 Example Section showing attribute 'ore_total_perc' ranging from 0 to 1

A set of geometrical attributes for geology (block ID for each wireframe), topography (topo), license area (conc) or mined out area (hist_mine) have been assigned to the block model.

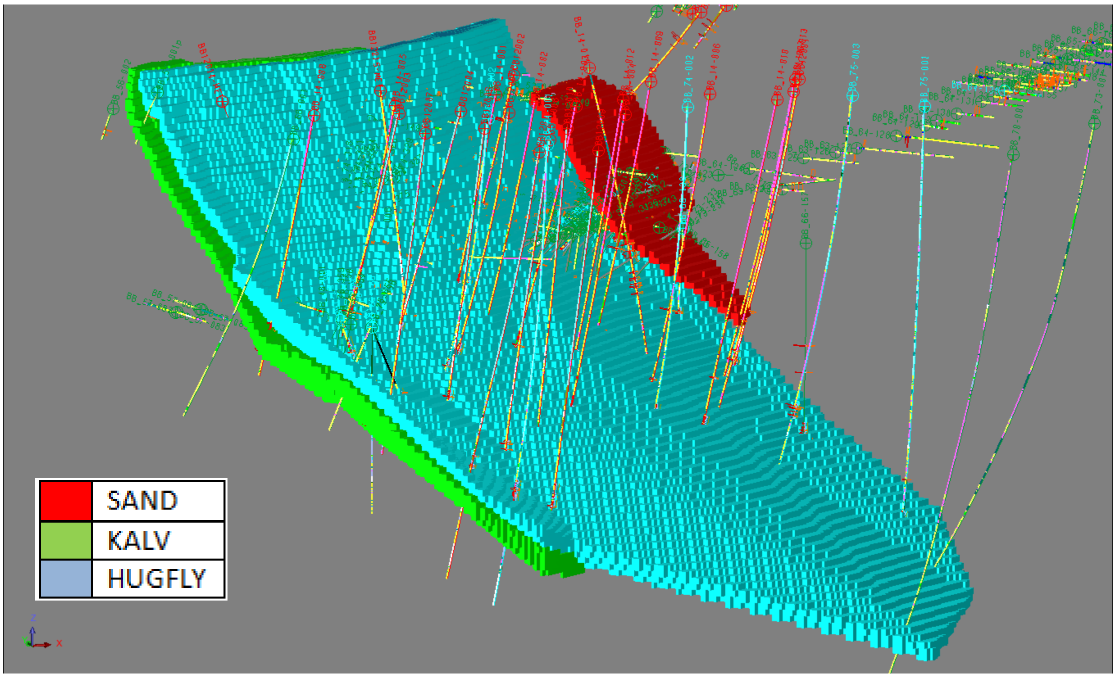


Figure 13-16 3D view to N showing attribute 'geol' with integer values

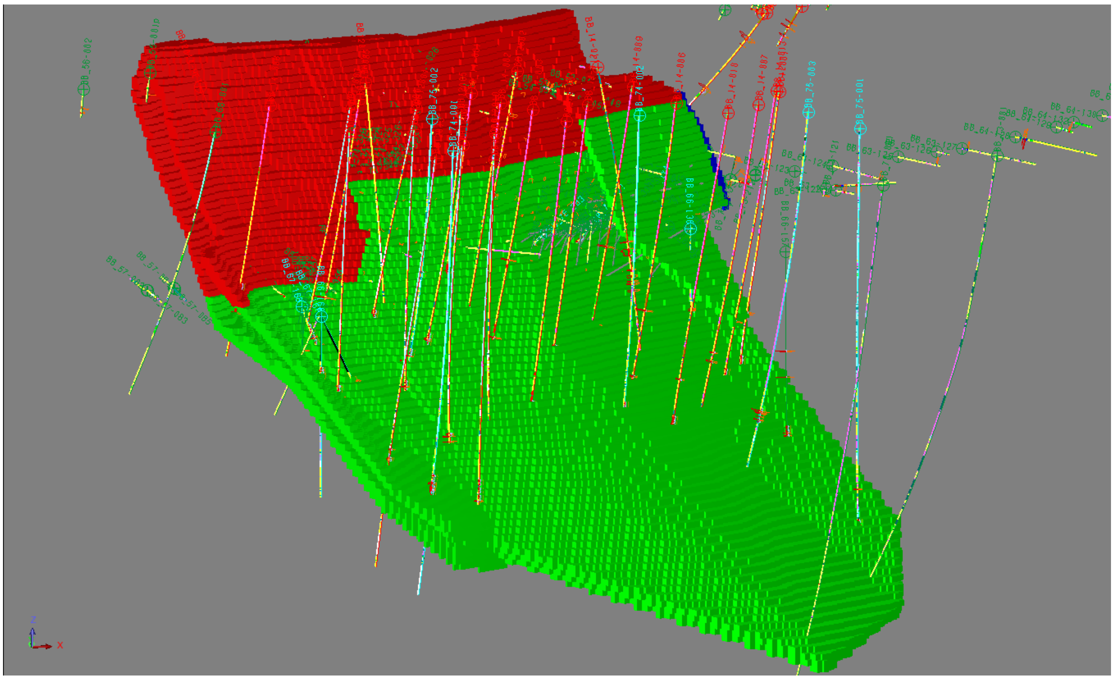


Figure 13-17 3D view to N showing attribute 'hist_mine'

Note: Red = mined

Green = not mined

Grades were interpolated for Total Fe, P and magnetite.

For KALV, the magnetite was not interpolated but assigned to each block with the help of a regression formula based on the interpolated grade of Fe (Figure 13-18, Figure 13-19, Figure 13-20, Figure 13-21 and Figure 13-22).

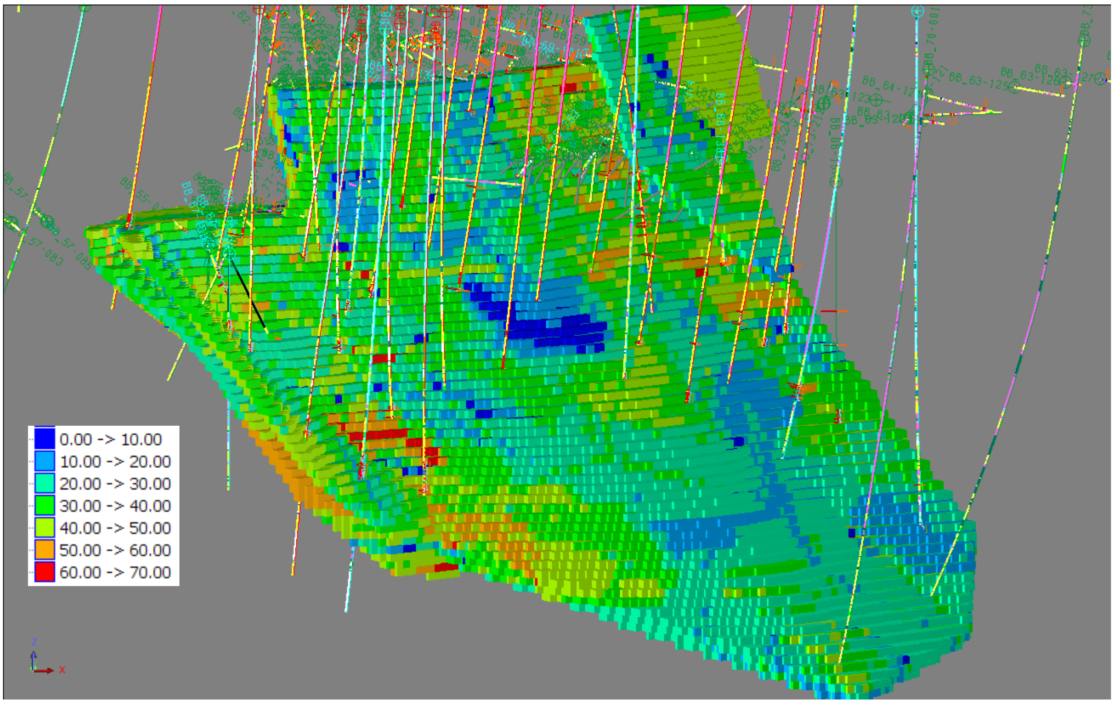


Figure 13-18 3D view to N showing attribute 'fe_perc_tot'

Note: Includes hematite and magnetite-rich ore

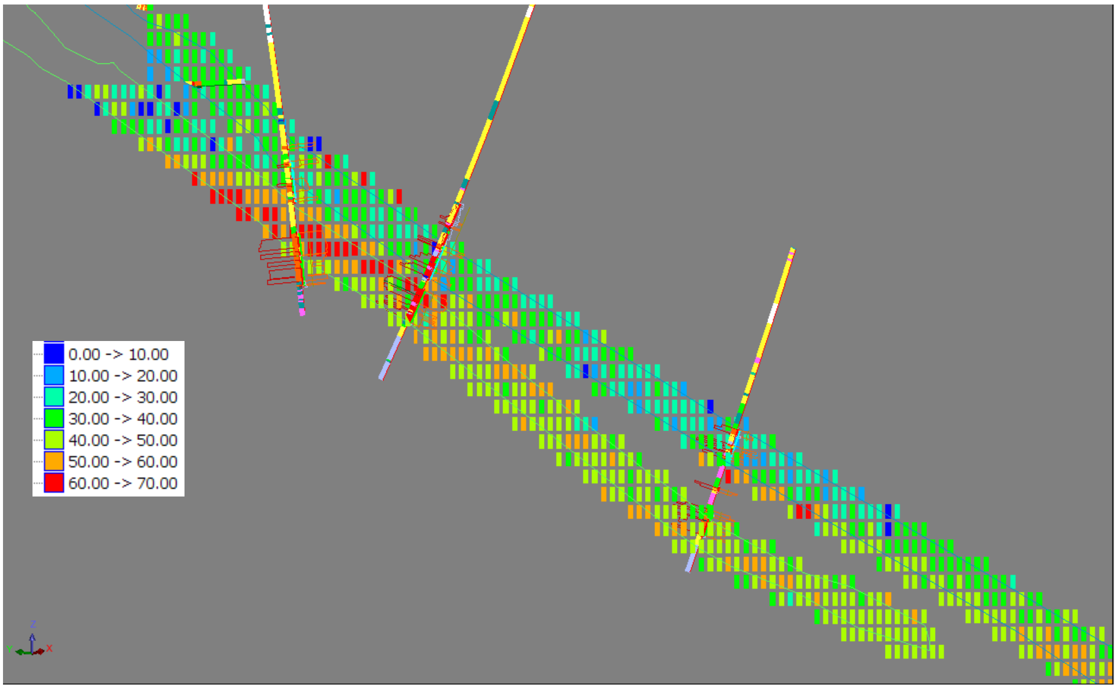


Figure 13-19 Example cross section showing distribution of Fe [%] (attrib.: Fe_perc_tot)

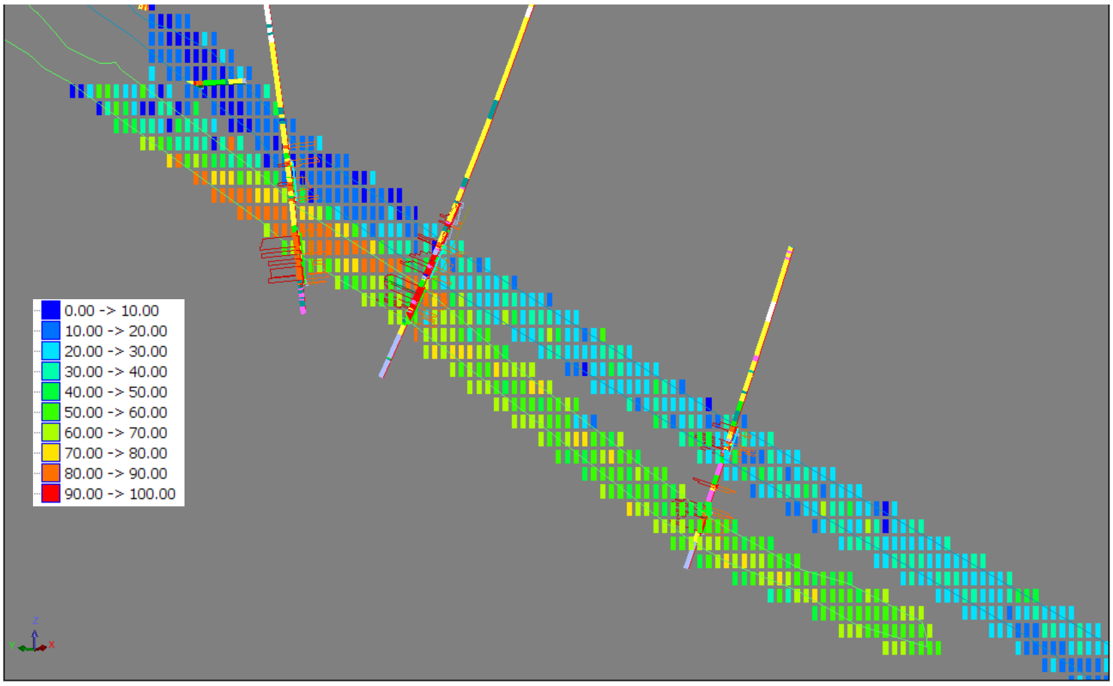


Figure 13-20 Example cross section showing magnetite distribution [%] (attrib.: 'mt_perc_tot')

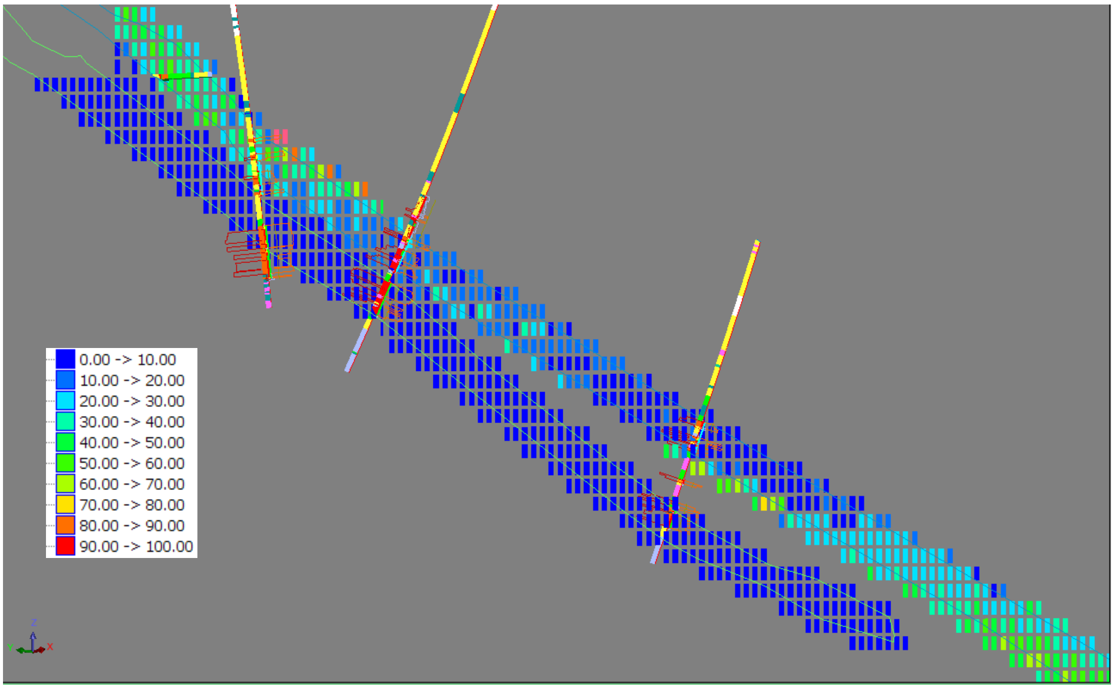


Figure 13-21 Example cross section showing distribution of hem [%] (attrib.: hem_perc_tot)

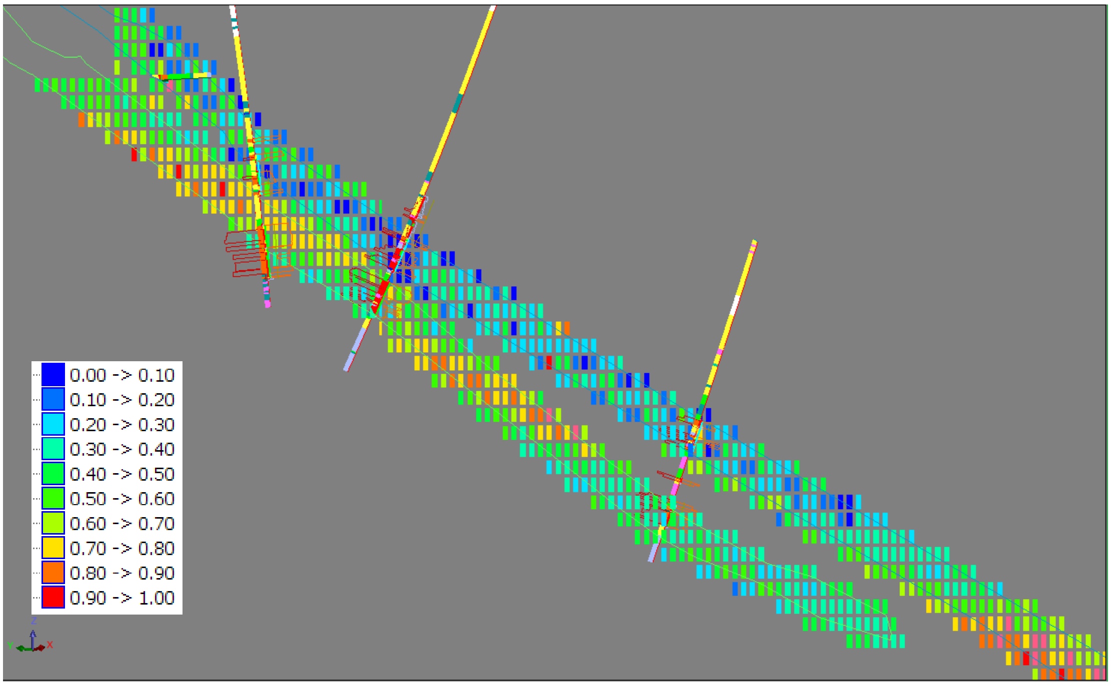


Figure 13-22 Example cross section showing distribution of P [%] (attrib.: p_perc_tot)

The bulk density was assigned to each block with the help of a regression formula based on the interpolated grade of Fe.

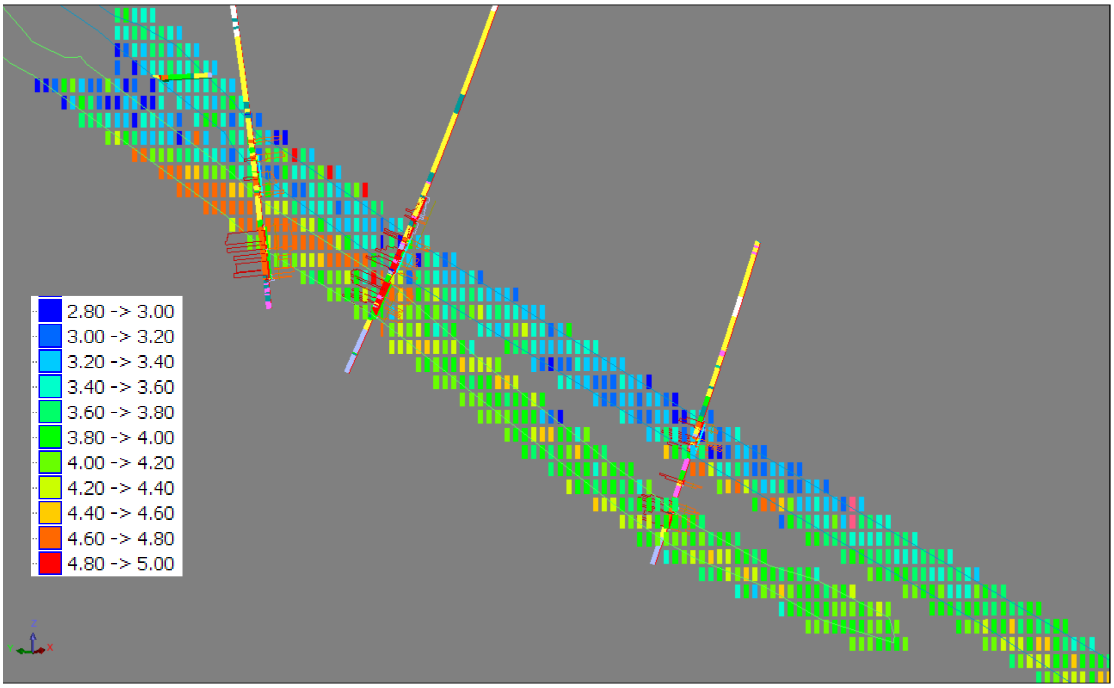


Figure 13-23 Example cross section showing ore density distribution [%] (attrib.: dens_ore)

Table 13-7 Desciptions of block model attributes

Priority	Process	Attribute Name	Type	Decimals	Back-ground	Description
1	inside concession string; keep partial	conc	Integer	-	-99	Concession area; 0: outside concession, 1: inside
2	partial percentage inside concession string	conc_perc	Real	2	-99	Volumetric portion of concession area; 0 to 1: 0 % inside concession area to 100
19	calculation; =0.0003*(fe_perc_tot^2)+(0.0157*fe_perc_tot)+2.6605; ore_total_perc>0	dens_ore	Real	2	-99	Bulk density of ore; t per m³
20	calculation; =2.8; topo=1, waste_perc>0	dens_waste	Real	2	-99	Bulk density of waste; t per m³
16	interpolation of magnetite; distance to nearest magnetite sample; ore_total_perc>0	dist	Real	2	-99	Distance to nearest drill hole
11	interpolation; Fe diluted with non-mineralized intervals as 8%Fe intervals; ore_oxidized_perc>0	fe_perc_ox	Real	2	-99	Grade of Fe in oxidized zone; %
12	interpolation; Fe diluted with non-mineralized intervals as 8%Fe intervals; ore_non_oxidized_perc>0	fe_perc_nonox	Real	2	-99	Grade of Fe in non-oxidized zone; %
18	calculation; ((fe_perc_ox*ore_oxidized_perc)+(fe_perc_nonox*ore_non_oxidized_perc))/(ore_oxidized_perc+ore_non_oxidized_perc); ore_total_perc>0	fe_perc_tot	Real	2	-99	Grade of total Fe of oxidized and non-oxidized zone; %
	interpolation; Fe diluted with non-mineralized intervals as 8%Fe intervals; waste_perc>0	fe_perc_waste	Real	2	-99	Grade of Fe in waste; %
5	inside wireframes from 1 to 3; topo = 1 keep partial	geol	Integer	-	-99	Geology (mineralization and non-mineralization); 0: 1: mineralized body HUGFLY, 2:
23	calculation; =(fe_perc_ox-(mt_perc_ox*0.7236))*(1/0.6994); ore_oxidized_perc>0	hem_perc_ox	Real	2	-99	Grade of hematite in oxidized
24	calculation; =(fe_perc_nonox-(mt_perc_nonox*0.7236))*(1/0.6994); ore_non_oxidized_perc>0	hem_perc_nonox	Real	2	-99	Grade of hematite in non-oxidized zone; %
25	calculation; ((hem_perc_ox*ore_oxidized_perc)+(hem_perc_nonox*ore_non_oxidized_perc))/(ore_oxidized_perc+ore_non_oxidized_perc); ore_total_perc>0	hem_perc_tot	Real	2	-99	Grade of total hematite of oxidized and non-oxidized zone; %
26	calculation; =hem_perc_tot/(mt_perc_tot+hem_perc_tot); ore_total_perc>0	hem_prop_tot	Real	2	-99	Proportion of total grade of hematite in grade of
	empty attribute; placeholder for resource estimate table	hem_perc_waste	Real	2	-99	
	empty attribute; placeholder for resource estimate table	hem_prop_waste	Real	2	-99	
8	partial percentage of wireframe of HUGFLY and SAND	ore_oxidized_perc	Real	3	-99	Volumetric portion of oxidized ore in block; 0 to 1:
7	partial percentage of wireframe of KALV	ore_non_oxidized_perc	Real	3	-99	Volumetric portion of non-oxidized ore in block; 0 to 1:
9	calculation; =ore_oxidized_perc+ore_non_oxidized_perc; (ore_oxidized_perc>0 or ore_non_oxidized_perc>0), topo=1	ore_total_perc	Real	3	-99	Volumetric portion of total non-oxidized ore and oxidized ore in block; 0 to 1: 0%
10	calculation; =1-ore_total_perc; topo=1; inside outside_cut30.dtm	waste_perc	Real	3	-99	Volumetric portion of waste; 0 to 1: 0% waste to 100% waste
13	interpolation; mt as it is, not diluted or mt diluted with non-mineralized intervals as 6%mt intervals; ore_oxidized_perc>0	mt_perc_ox	Real	2	-99	Grade of magnetite in oxidized zone; %
21	calculation; =0.0047*(fe_perc_nonox^2)+1.1142*fe_perc_nonox-2.7834; ore_non_oxidized_perc>0, fe_perc_nonox>=0	mt_perc_nonox	Real	2	-99	Grade of magnetite in non-oxidized zone; %
22	calculation; ((mt_perc_ox*ore_oxidized_perc)+(mt_perc_nonox*ore_non_oxidized_perc))/(ore_oxidized_perc+ore_non_oxidized_perc); ore_total_perc>0	mt_perc_tot	Real	2	-99	Grade of total magnetite of oxidized and non-oxidized zone; %
27	calculation; =mt_perc_tot/(mt_perc_tot+hem_perc_tot); ore_total_perc>0	mt_prop_tot	Real	2	-99	Proportion of total grade of magnetite in grade of
	empty attribute; placeholder for resource estimate table	mt_perc_waste	Real	2	-99	
	empty attribute; placeholder for resource estimate table	mt_prop_waste	Real	2	-99	
14	interpolation; P as it is, not diluted; ore_oxidized_perc>0	p_perc_ox	Real	2	-99	Grade of P in oxidized zone; %
15	interpolation; P as it is, not diluted; ore_non_oxidized_perc>0	p_perc_nonox	Real	2	-99	Grade of P in non-oxidized
22	calculation; ((p_perc_ox*ore_oxidized_perc)+(p_perc_nonox*ore_non_oxidized_perc))/(ore_oxidized_perc+ore_non_oxidized_perc); ore_total_perc>0	p_perc_tot	Real	2	-99	Grade of total P of oxidized and non-oxidized zone; %
	empty attribute; placeholder for resource estimate table	p_perc_waste	Real	2	-99	
17	calculation; 1: dist=> 0 and < 90; 2: dist=> 90 and <140; 3: dist>= 140	rclass	Integer	-	-99	Resource class; 0: not classified as resource 1: measured resource, 2:
3	below topography surface; keep partial	topo	Integer	-	-99	Topography; 0: air, 1: rock
4	partial percentage below topography surface	topo_perc	Real	2	-99	Volumetric portion of topography; 0 to 1: 0 % rock to
6	mined out; 0: conc=1, geol>0; 1: hist_mine=0, below cutting plane, not keep partial	hist_mine	Integer	-	-99	Historical mining activities; 0: ore mined out, 1:ore not

13.9 Model Validation

In order to check that the grade interpolation has worked appropriately, the interpolated block model has been validated against the corresponding domained composites using the following techniques:

- Comparison of wireframe volumes with the block model volume;
- Visual inspection of block grades in plan and section and comparison with drill hole grades; and
- Statistical comparison of global block grades and composite grades within mineralised domains (mean and frequency plots).

Table 13-8 Comaprison of wireframe to block model volumes

Domain / Zone	Wireframe Volume Mm^3	Block Model Volume Mm^3
HUGFLY	14.6	14.6
KALV	5.3	5.3
SAND	0.47	0.47

A statistical comparison of global block grades and composite grades within mineralised domains has been carried out using mean and frequency plots. These have demonstrated a close correlation (Figure 13-24).

The comparison illustrates that no obvious bias has been introduced during the block modelling process. The model blocks are slightly higher grade than their corresponding composites in the low-grade range. The opposite is true in the high-grade range; however, as shown in Figure 13-24 the two data sets are closely aligned. The frequency distribution of interpolated block data follows the distribution of composite data and shows the typical smoothing (upgrading of the lower grade mineralisation and downgrading of the higher grade mineralisation).

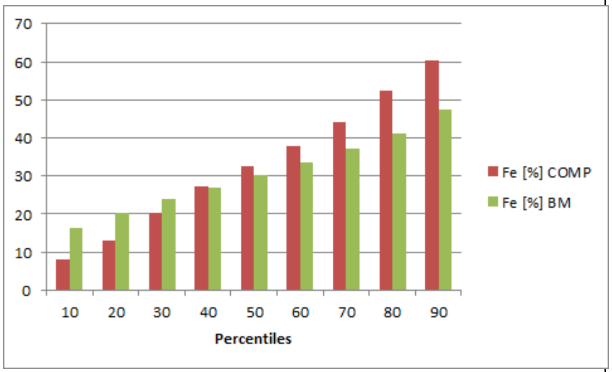
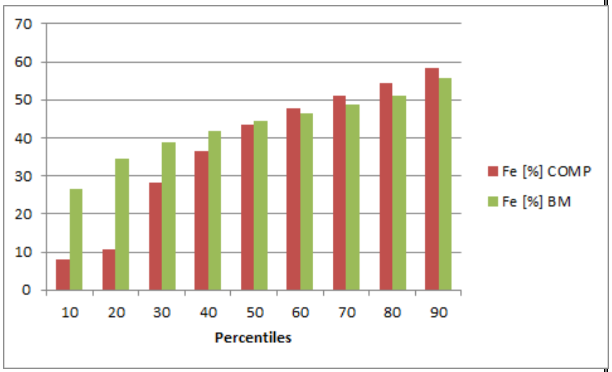
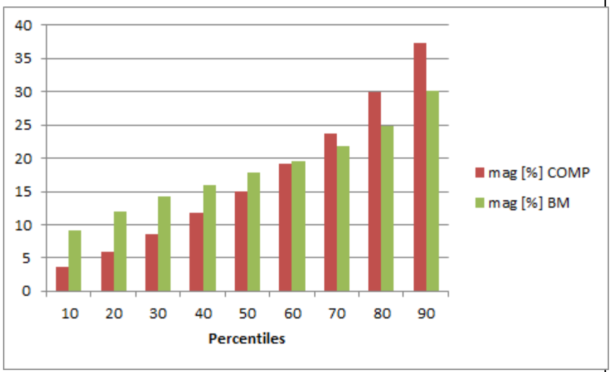
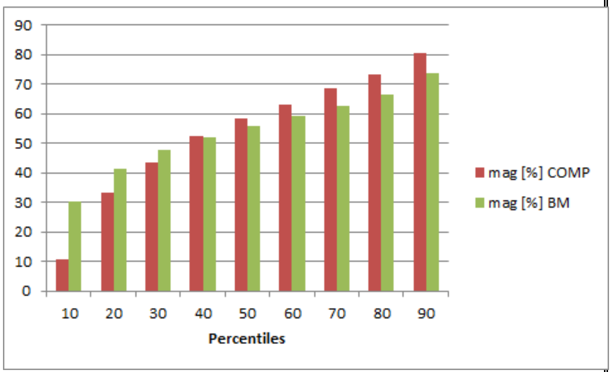
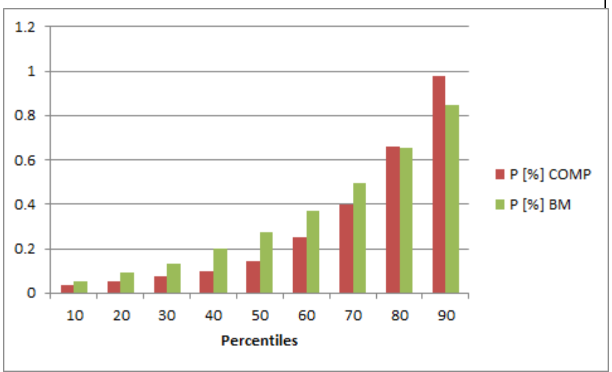
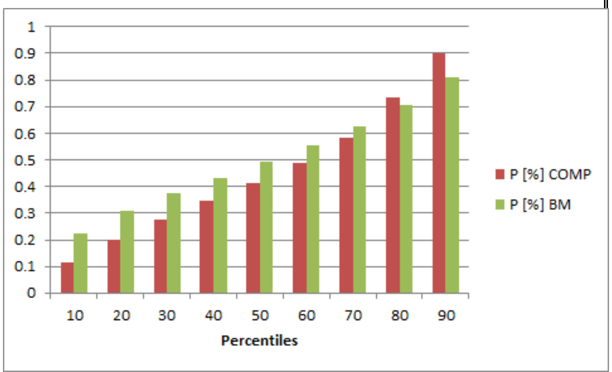
HUGFLY-SAND (hematite-rich ore)	**KALV (magnetite-rich ore)**
	
Mean (Composite) = 33.2 Mean (Block Model) = 31.1	Mean (Composite) = 37.5 Mean (Block Model) = 42.7
	
Mean (Composite) = 18.2 Mean (Block Model) = 19.0	Mean (Composite) = 53.1 Mean (Block Model) = 53.9
	
Mean (Composite) = 0.36 Mean (Block Model) = 0.39	Mean (Composite) = 0.48 Mean (Block Model) = 0.52

Figure 13-24 Frequency distribution of data for composites and the block model

On the basis of its review and validation procedures, DMT is of the opinion that the block model is valid and acceptable for estimating Mineral Resources.

The reader should note that a Mineral Resource **is not** an Ore Reserve as it has not been demonstrated to be economically mineable.

According to the JORC Code, Measured and Indicated Resources can be converted to Proved and Probable Ore Reserves when consideration of mining, processing, metallurgical, infrastructure, economic, marketing, legal, environment, social and government factors; (“**the Modifying Factors**”) has been carried out (Figure 13-12).

The figure below illustrates the spatial distribution of Measured, Indicated and Inferred Mineral Resources within the Blötberget deposit.

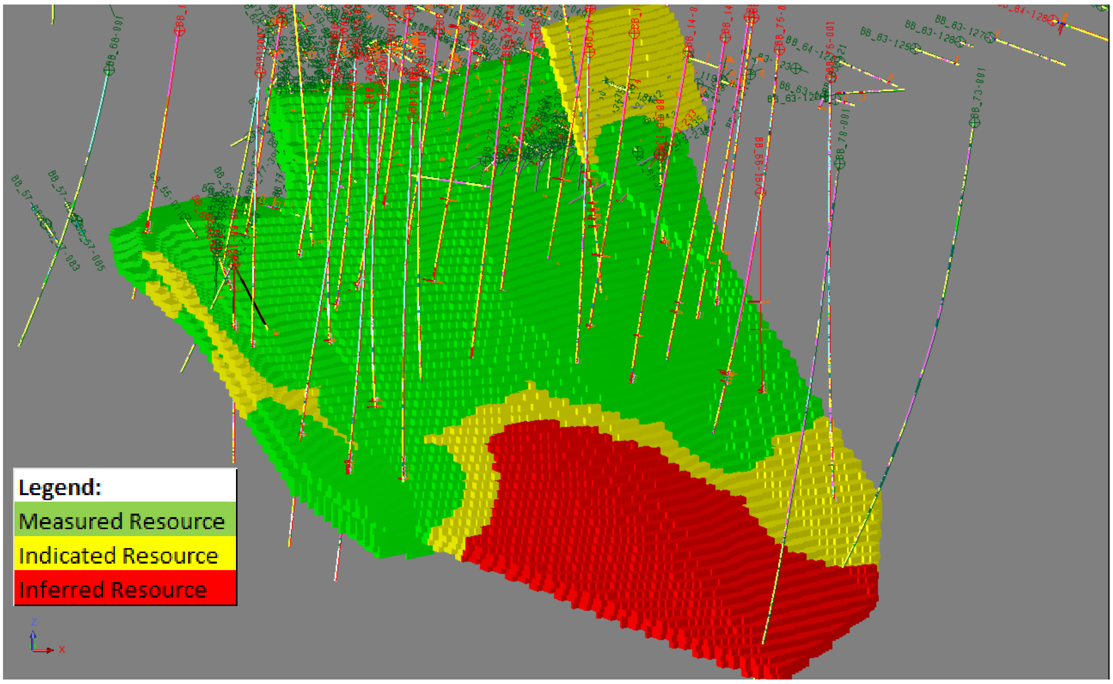


Figure 13-25 Blötberget 2015 Resource Block Model

13.10 Previous JORC Compliant Mineral Resource Estimates

Previous JORC Compliant MRE’s have been undertaken by GeoVista, Sweden. GeoVista’s initial MRE estimate was carried out in 2011, with subsequent updates in 2012, and 2014.

The GeoVista January 2014 MRE established a COG based on similar preliminary economic assumptions to those made in this DMT resource estimate. However, the parameters were not applied to the 2014 resource statement.

Table 13-9 therefore compares the resource estimates of 2014 and 2015 without a COG applied (i.e. 0 % Fe Total).

The January 2014 MRE did not allow for the loss of volume and tonnage created by the former mined out areas in the upper levels of the mine. Subsequently, and due to improved information, the 2015 estimate has excluded some areas that have been mined out or are believed to be "un-mineable" areas.

Since the 2014 MRE, additional resources have been added in the 'Wedge - Betsta' areas a result of the 2014 drilling programme. In 2014, no Fe grade (i.e. 0 %) was applied to the internal waste or country rock material, whereas the 2015 estimate has applied an 8 % average Fe grade to these parts of the block model.

The additional material recently explored from the Wedge area connects the two bodies HUG and FLY, to create HUGFLY. The upgrading of the January 2014 Inferred Resource for HUG and FLY (low Fe grade) to Measured and Indicated Resources leads to slightly lower Fe grades for Measured and Indicated Resources of HUGFLY but the overall tonnage has approximately doubled.

The DMT 2015 MRE shows a slightly higher tonnage for SAND but a lower Fe grade.

Estimates for density, magnetite, hematite and mag-hem ratios were not available in the 2014 MRE.

Table 13-9 Comparison of GeoVista 2014 estimate and DMT estimate March 2015

Resource Category	Resource Estimate 2014			Resource Estimate 2015		
	Tonnage Mt	Fe %	P %	Tonnage Mt	Fe %	P %
Measured	10.7	34.3	0.3	53.7	37.0	0.46
Indicated	27.4	44.8	0.5	8.5	31.1	0.43
Measured + Indicated	**38.1**	**41.9**	**0.4**	**62.2**	**36.2**	**0.46**
Inferred	21.7	33	0.4	10.5	27.3	0.48
Total	**59.8**	**38.6**	**0.4**	**72.7**	**34.9**	**0.46**

Note: These resources are **global** estimates with no cut-off parameters applied and are for comparison purposes only

13.11 Estimate of Mineral Resources

DMT has prepared a Mineral Resource estimate for the Blötberget Project with a drillhole database cut-off date of 1st January, 2015.

The Mineral Resource estimate has an effective date of 30th January, 2015 and has an issue date of 10th April 2015.

DMT applied basic mining and economic parameters (Table 13-5), including commodity price and wireframe assumptions, to estimate a cut-off grade for resource estimation of 25 % Fe (Total).

The total Measured and Indicated Resource estimated for the Blötberget Project, at a preliminary economic cut-off Grade of 25 % Fe, is 47.8 Mt at a grade of 41.5 % Fe (Total) and 0.5 % P.

1) HUGFLY contains an estimated 26.5 Mt of Measured and Indicated Resources at a grade of 38.5% Fe (Total) and 0.5% P.
2) KALV contains an estimated 19.8 Mt of Measured and Indicated Resources at a grade of 45.6 % Fe (Total) and 0.5 % P.

3) SAND contains an estimated 1.4 Mt of Measured and Indicated Resources at a grade of 38.5% Fe (Total) and 0.5% P.

Of the total estimated contained Fe, the magnetite proportion is estimated at 62% and the hematite at 38%.

DMT has reported all the material of magnetite-rich ore of KALV and hem-rich ore of HUGFLY and SAND contained within the resource block model limited by the licence area and excluding the material mined out by historical mining activities.

DMT considers all of the material reported as Measured and Indicated Resources to have 'reasonable prospect of economic extraction' given appropriate economic and technical considerations.

Table 13-10 and Table 13-11 summarise the Mineral Resource estimate for the Blötberget Project as of 30th January, 2015. . The Block Model has been constrained using basic economic and mining parameters and the Mineral Resources are estimated at a COG of 25%.

Table 13-10 Measured and Indicated Resources for the Blötberget Iron Project - January 2015

Fe Cut-off % Fe	Resource Category	Volume Mm^3	Tonnage Mt	Density t/m^3	Fe %	Magnetite %	Hematite %	Magnetite proportion	Hematite proportion	Phos. %
25	Measured	11.1	42.5	3.8	41.9	36.8	21.9	0.63	0.37	0.51
	Indicated	1.4	5.3	3.7	38.2	30.5	23.2	0.57	0.43	0.5
	Measured + Indicated	**12.5**	**47.8**	**3.8**	**41.5**	**36.1**	**22.0**	**0.62**	**0.38**	**0.51**
	Inferred	1.5	5.4	3.5	33.5	23.5	23.5	0.50	0.50	0.52

Notes:

1) JORC 2012 definitions were followed for estimating Mineral Resources;
2) Mineral Resources are estimated at a cut-off grade of 25 % Fe;
3) Mineral Resources are estimated using a five year historical average price of US$ 100 per tonne (Source: IndexMundi); and
4) Figures may not total due to rounding errors.

Table 13-11 Deposit specific Resources for the Blötberget Iron Project - January 2015

Fe Cut-off % Fe	Deposit	Volume Mm^3	Tonnage Mt	Density t/m^3	Fe %	Magnetite %	Hematite %	Magnetite proportion	Hematite proportion	Phos. %
25	HUGFLY	7.2	26.5	3.7	38.5	20.4	34.0	0.37	0.63	0.5
	KALV	5.0	19.8	4.0	45.6	58.0	5.2	0.92	0.08	0.54
	SAND	0.4	1.4	3.8	40.6	25.4	31.8	0.44	0.56	0.25
	TOTAL	**12.5**	**47.8**	**3.8**	**41.5**	**36.1**	**22.0**	**0.62**	**0.38**	**0.51**

Notes:

1) JORC 2012 definitions were followed for estimating Mineral Resources;
2) Mineral Resources are estimated at a cut-off grade of 25 % Fe;
3) Mineral Resources are estimated using a five year historical average price of US$ 100 per tonne (Source: IndexMundi); and
4) Figures may not total due to rounding errors.

13.12 Conclusions

The Blötberget apatite-iron oxide deposit is located in the western part of the intensely mineralised Paleoproterozoic Bergslagen Province in south central Sweden.

The deposits in the neighbouring area occur along a ~40 km long, broad zone. This zone of mineralisation is the third largest iron ore deposit in Sweden by production, only outnumbered by the giant Kirunavaara and Malmberget iron ores in Norrbotten, northern Sweden.

The mineralised zone at Blötberget appears as a set of vertically narrow, elongated lenses dipping 50°–70° to the SE. Airborne geophysical surveys and historical drillholes indicate that mineralisation extends to a depth of at least 900 m below surface.

The Blötberget field consists of five mineralised bodies, from west to east, these are: Kalgruven; Flygruven; Hugget and Betsta (The Wedge); Sandell.

Mining and exploration in the Ludvika area has been carried out in different periods since the 1600's. The majority of this small scale mining was focused on iron production.

NIO applied for a mining concession within the Blötberget area in October 2010 and it was granted by the Mining Inspectorate of Sweden in August 2011. The mining concession, which runs for 25 years with possibility of extension, implies the right of exploitation and utilisation of iron, rare earths, and apatite. The environmental permit for this Project was granted in late June 2014.

The Hugget and Kalvgruvan/ Flygruvan zones had previously been mined down from near-surface to the 200 m and 240 m levels respectively. The units dip towards the southeast at between 50° and 55° in the near-surface mined-out areas, and flatten at depth to ~25°.

A drilling programme was undertaken by NIO during the summer and winter of 2012 and was completed in November 2012. This 16 hole programme included drilling to confirm the quality of historical drilling data, as well as infill and step-out drilling. NIO completed 16 drillholes totalling 7,430 m of drilling.

The 2014 drilling programme was designed to investigate the area between Flygruvan/Kalvgruvan and Hugget (formally known as "the wedge" or Betsta area) and to infill the intermediate depth extension of Hugget, in order to improve the confidence of the geological model. 13 drillholes, totalling 7,093 m, were drilled.

'The Wedge' was successfully explored during the 2014 drilling programme and, as a result, Kalvgruvan and Hugget/Flygruvan have now been shown to be continuous zones of mineralisation

Mine maps and historical drilling data have been collected from various sources and digitised, where possible. Drill core from historical exploration drilling in the Blötberget project area has been recovered, re-logged and re-analysed.

DMT was provided with a comprehensive set of historical reports and data which have been collated and used in conjunction with data collected more recently by NIO in order to estimate and report Mineral Resources for the Blötberget Project in accordance with JORC standards.

In the resource development programme of 2012 and 2014 NIO completed industry standard QA/QC programs to ensure the data is reliable and suitable for resource estimation. The drill density of the resource is adequate for the purpose and is reflected in the JORC compliant resource category classifications of Measured, Indicated and Inferred Mineral Resource.

DMT has relied heavily upon the information provided by NIO, however DMT has, where possible, verified data provided independently during the site visits.

DMT was able to overlay licence information on the Mineral Resource estimate area to confirm that the deposit is within NIO's license. DMT has not undertaken a legal review of the licences and assume that all the required licences are in place.

The geology of the deposit is fairly well understood and DMT has constructed a wireframe geological model for the Blötberget deposit based upon a combination of logged lithologies and analytical and SATMAGAN magnetite results. This has allowed the splitting of the deposit into geological domains comprising, magnetite-rich material of KALV and hematite-rich material of HUGFLY and SAND.

DMT has undertaken a statistical study of the data, which demonstrates adequate splitting of the data into single iron population domains, and undertaken a geostatistical study to investigate the grade continuity and to provide grade estimation parameters for Ordinary Kriging.

A Surpac block model using all the available geological and sample analytical test data has defined an iron ore resource. At this stage of the investigation most of the mineral resources of Blötberget have been classified into the Measured and Indicated categories.

As a result of the site visits, data base verification and validation and the geological and model generated therefrom, DMT has estimated the total Measured and Indicated Resources for the Blötberget Project as 47.8 Mt at a grade of 41.5 % Fe (Total) and 0.5 % P at preliminary COG of 25 % Fe. Of the total estimated contained Fe, the magnetite-hematite ratio is estimated at 62:38.

13.13 Recommendations

13.13.1 Further Drilling

For the current Resource Estimate it is considered that there is only limited additional geological information that can be gained from further, expensive, surface drilling programmes. The bulk of the upper levels of the Blötberget deposit that have been identified as part of the proposed mine plan are within the Measured Resource category. However, surface drilling for rock mechanical/structural and or metallurgical information for detailed mine planning should be considered.

Definition and Grade Control drilling should commence as soon as there is access to the underground areas after dewatering. This close spaced drilling is required to support the transfer of Measured Resources into (Proven) Reserves. The underground drilling should follow a similar drill approach to that used historically, with fan pattern of close spaced drilling into the mine blocks , typically at 35-45 m centres, with wider spaced (100 m) deeper down dip drilling to provide increased confidence in the Indicated area of the resources.

13.13.2 Further Studies

Additional hydro-geological investigations on existing drillholes should be undertaken, as DMT considers that insufficient data exists on the hydrological and hydrogeological conditions for underground mining.

13.13.3 Sampling

There was no use of check samples in the historic core re-assay (BGU), this should be addressed as a partial re-run with standards inserted.

The blank samples assayed to date have indicated between 1 % and 2 % Fe. Prior to further analysis being undertaken, the preparation of suitable blanks for insertion into future sample streams should be addressed by NIO.

Check standards have slightly (but consistently) undervalued the results, this should also be corrected ahead of the next phase of core sampling, which will likely be from underground drill locations.

NIO should continue to source historical data and drill core for the purposes of re-assaying, re-logging and integration into the current database.

14 REFERENCES

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http://www.google.co.uk

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Competent Person's Consent Form

DMT Consulting Limited
International Mining Consultants

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Lake View Drive, Sherwood Park
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Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Mineral Resource Estimate – Blötberget Iron Ore Project

(insert name or heading of Report to be publicly released ("Report"))

DMT Consulting Limited

(insert name of company releasing the Report)

Blötberget Iron Ore Project

(insert name of the deposit to which the Report refers)

10th April 2015

(Date of Report)

DMT Consulting Limited
International Mining Consultants

Pure Offices
Lake View Drive, Sherwood Park
Nottingham, NG15 0DT
United Kingdom

Email: UK@dmt-group.com
Web: www.dmt-group.com

Statement

I/~~We~~

Florian Lowicki

(insert full name(s))

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years' experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I/~~We~~ am a full time employee of

DMT

(insert company name)

and have been engaged by

Nordic Iron Ore

(insert company name)

To prepare the documentation for

Blötberget Iron Ore Project

(insert deposit name)

On which the Report is based, for the period ended

30th January 2015

(Insert date of Resource statement)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Mineral Resources.

DMT Consulting Limited
International Mining Consultants

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United Kingdom

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Web: www.dmt-group.com

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

DMT Consulting Limited

(insert reporting company name)

10th April 2015

Signature of Competent Person | *Date*

Pr.Sci.Nat Geol. (SACNASP) | **400425/13**

Professional Membership (insert organisation name) | *Membership Number*

Tim Horner – Nottingham, UK

Signature of Witness | *Print Witness Name and Residence (e.g. town/suburb)*

Appendix A
Sampling Procedure Manual

Procedure manual

Note: As a prerequisite to carrying these tasks you must firstly have read the specific machinery manuals and procedures from the manufacturer and secondly you must have sign off by a competent trainer before undertaking any task.

1.1 Core handling

1.1.1 Collection of the core from the drilling team.

1.1.2 Make a quick measurement to ensure all core boxes are labelled correctly and that all core blocks are in the correct place.

1.1.3 Make sure all boxes are lifted in a correct way, using two people at the time.

1.1.4 When transporting the core, make sure to use ratchet straps!

1.1.5 Core is to be stored in Grängesberg at Inbox wall.

1.1.6 When geologist starts working with a drill hole, update the DDH-info onto the whiteboard.

1.1.7 Place boxes onto rollers in order i.e. 0.00 tray first. Remember to use wooden core stop at each end of the roller.

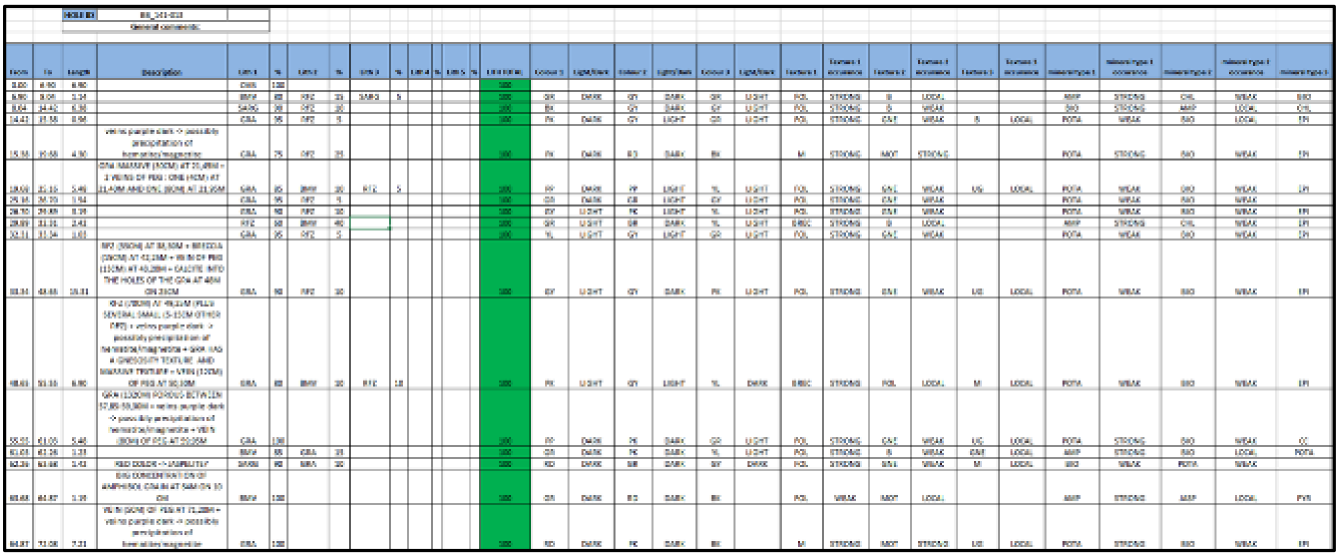
1.1.8 Prepare to measure meter marks on core and hole consistency checks.
- You need: Tape measure and a black permanent marker

1.1.9 Meter measuring
- Push all core to the left and match fractures/breakages while measuring metre marks
- Check each box for labelling consistency i.e. core blocks, hole ID, tray number.
- Check that core blocks match tray meterage.
- If there are any issues with this: measure further on and see if it fixes itself, refer to daily drilling protocols then refer to drillers ASAP.
- Check that all markings are legible.
- If mistakes are discovered core boxes and core blocks must be sanded off and relabelled and a note made on the logging of the error. This must then be fed back to the drilling contractor as we could be over or under charged. It is essential that this data is captured otherwise our logging and sampling will be incorrect.

1.2 Logging

1.2.1 Prepare for geological log and sampling.
- Tape measure
- Magnetic pen
- Scribe
- Biro pen
- Hand lens
- Old log/protocol
- Surpac section
- Notepad
- Sample tag book
- Water bottle
- Acid bottle and protective eyewear
- UV-lamp and black towel
- Handheld XRF

1.2.2 Log using the drop down logging template located on the server. Rename before saving as this will overwrite the blank version. Place template under the respective deposits folder in KARTERINGSLOGG.



1.2.3 Logging should have a 1cm accuracy to boundaries. Core over **1m** should be logged as separate lithologies if there is a change, unless it is ore which should be greater than **30cm**. **If the magnetite or hematite content is 15% or more, always put it as lithology 1.**

1.2.4 Firstly walk along the whole core and note down lithological changes, colour changes, take a mag pen with you and run across as you do so and note magnetic sections. Wet core wherever needed to assist with logging.

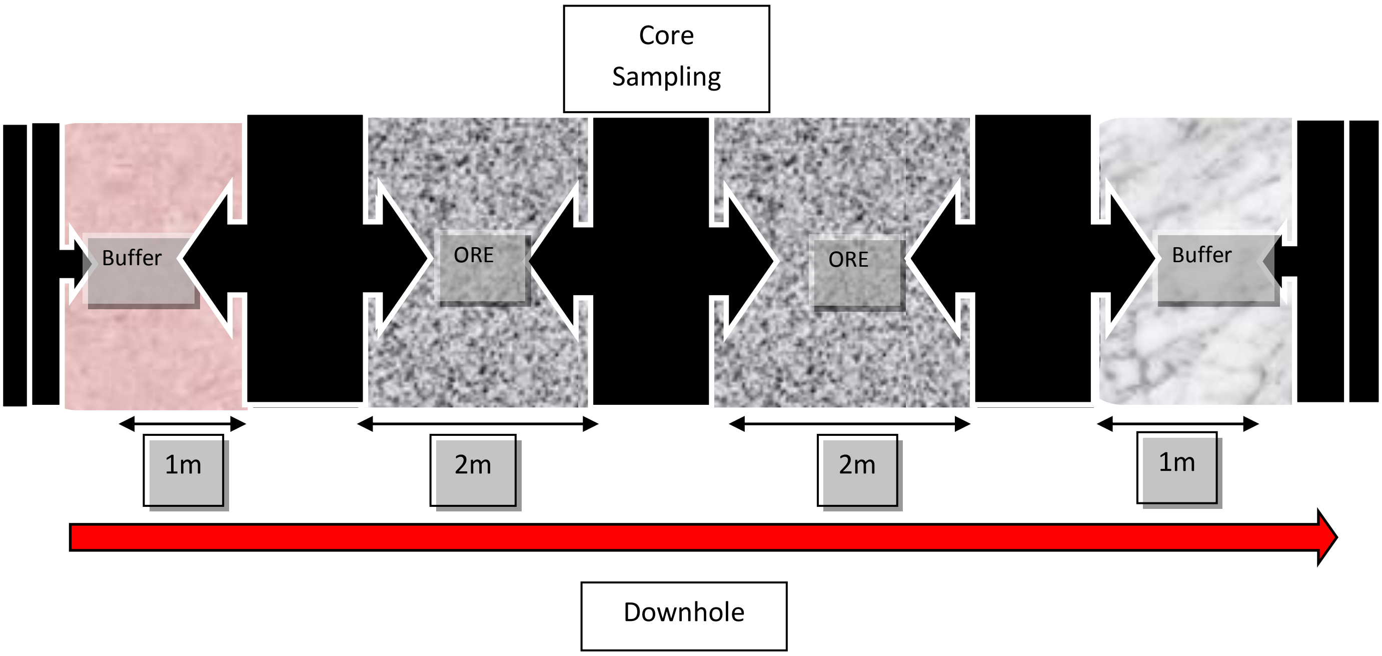
1.2.5 Before starting with the XRF and Magnetic Susceptibility, ensure that you have completed training with an experienced and competent person. For the XRF that means a person with a certificate signed by the manufacturer. Mark the test points for XRF and Magnetic Susceptibility with a biro pen**. Make sure the six XRF points are in the same spots as the six Magnetic Susceptibility points**. Use about 10 seconds per XRF sample point, or however long it takes to get a reasonably constant Fe-value. If unsure seek assistance from the NIO geologist on site.

1.2.6 When using the XRF for mineral identification, make sure to have the correct settings and measuring time.

1.2.7 When using the UV lamp, make sure it is set to A/C so you can see both short- and long-wave responsive minerals. **Never look directly into the UV-lamp.**

1.3 Sampling of core

1.3.1 Sample all material with Fe over 10%, greater than 50cm in length and **within a mineralised section**. If unsure seek assistance from the NIO geologist on site.



1.3.2 Use lithological boundaries to section the mineralised core. Samples should preferably be <>2m length.

1.3.3 Sample 1m before and 1m after mineralised zone and create these as separate samples.

1.3.4 Mark sample intervals on the core and on the boxes with black permanent marker (see figure above).

1.3.5 Write sample depths with biro pen at start and end of sample intervals on core boxes.

1.3.6 If necessary draw a saw cut line with permanent marker on core.

1.4 Allocating sample ID

1.4.1 Check last sample book used for first sample number and QA/QC insertion type and sequence.

1.4.2 Allocate sample id into sampling tab on the logging spread sheet

1.4.3 Cross check core marking and sample tags for errors

1.4.4 Insert the numbered sample tags into the core box next to the start of the section to be sampled – write hole name on new sample booklet and the sample series used– write date – hole id – total sample length of section- sampler name

- Insert certified standards, blanks and duplicates into the sample train at the rate of one per every 5 samples. Make sure high grade material gets a high grade standard and that the name of the standard used is recorded in the sampling sheet.

1.4.5 Enter data into logging spread sheet and save file under correct directory on server. Update the whiteboard to reflect completion of sampling and add to sawing list under the GEO tab.

1.5 DCSO and RQD

1.5.1 Start with moving the core over to the v-rail while matching fractures/breakages along the core. Locate the orientation line starting point made by the drillers. You might need to have several runs in the rail at the same time to make a match between two starting points. Use the edge of the v-rail and a red permanent marker to draw the orientation line. If you have any problems with matching the fractures/breakages and the foliation of the rock doesn't give you confidence enough, then skip the orientation line in this section. No data is better than false data.

1.5.2 As you start moving the core back into the box take a careful look at all fractures and separate the manmade fractures from the natural ones. All manmade fractures are marked with a black X. The midpoint of the X should be over both the fracture and the orientation line. If you are unsure leave the fracture as natural.

1.5.3 All natural fractures need to be measured with help of the DCSO tool. Measure the alpha and beta angles as seen in the description from Petro Team Engineering.

1.5.4 While you are holding the core, also estimate the J_R and J_A value for all natural fractures. The estimation is made according to Barton's Q classification chart and added into the same DCSO logging sheet as the information above. Update the whiteboard to reflect completion of DCSO measurements.

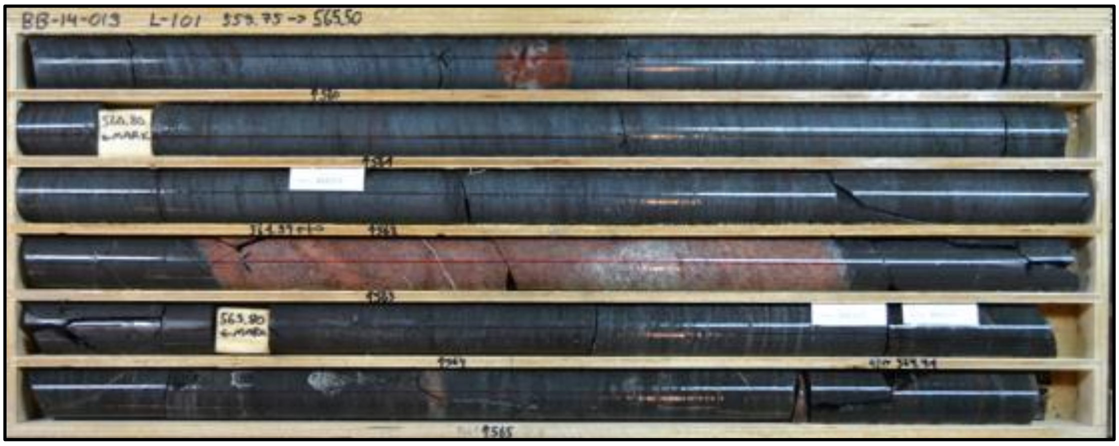
1.5.5 When all core is back in the box, do RQD. Start with dividing the core into intervals of similar RQD, zones that have the same RQD value. Mark the edges of each interval with a **+** using a green permanent marker. Note that all core loss should be recorded in the RQD measurement as RQD 10. If the RQD is the same as the previous zone then it should be merged as one zone and included in the RQD measurement.

- Measure and note each RQD interval
- Measure all core pieces over 10 cm in length. The total length of these pieces divided by the total length of the interval will give you a value that if multiplied with 100 is the RQD value for the interval. All RQD values below 10 are

recorded as 10! Enter the RQD value in the same software as for DCSO and J_R, J_A. Make sure each row is populated with the corresponding RQD value.

- For core loss or other intervals with RQD 10 make sure they are entered separately into the program. One row for the starting depth and one row for the finishing depth. Make sure to copy the comments from the first to the second row so anyone could easily see that it's the same RQD zone.
- Update the whiteboard to reflect completion of RQD.

1.6 Photographing core



Wet core photograph example

Dry core photograph example

1.6.1 Prepare camera and check if battery is charged (there are two)

1.6.2 Take pictures of each box individually dry and then wet with the Nikon D3100. Check the first few pictures to ensure they have come out correctly i.e. in focus, straight, not too dark or light and no obstructions. Once complete name these photos using the naming convention: VAS_12-011_L1_0.00-13.80_dry or VAS_12-011_L2_13.80-24,70_wet.

1.6.3 Ensure that the orientation line and sampling tags are visible in the picture.

1.6.4 Ensure all photos are then loaded onto the server under their respective folder in G drive before moving onto the next hole. Also ensure to remove your pictures from the camera memory.

- Ensure camera is turned off once finished. Update the whiteboard to reflect completion.

1.7 Point load

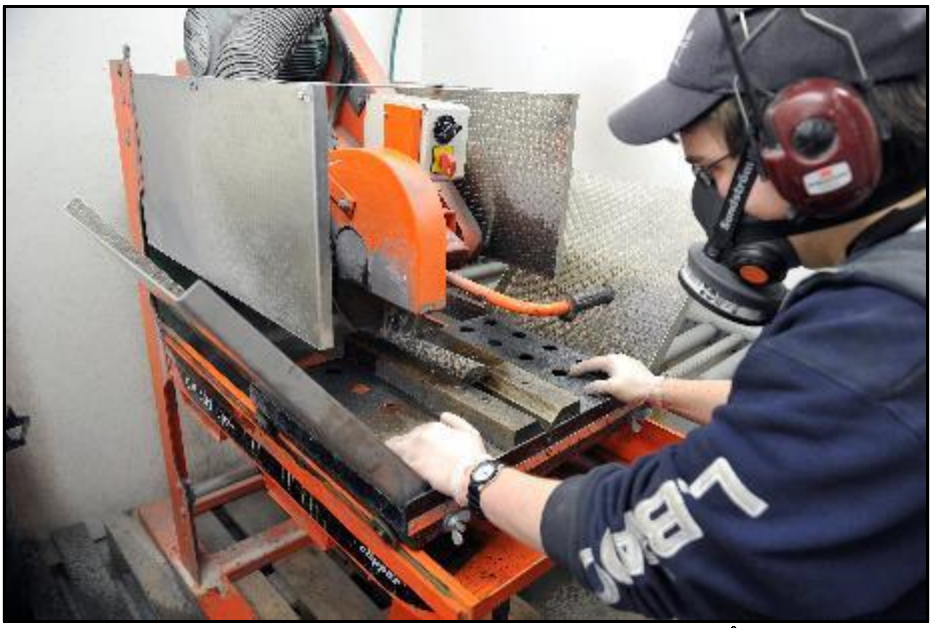
1.7.1 Open the point load template from the G: drive, rename the file to the current hole name.
1.7.2 Ensure you have the geological logging file
1.7.3 Copy the primary logging codes and interval lengths.
1.7.4 If the rock has foliation take six measurements – three parallel and three perpendicular within 15-20cm - close to each other to ensure that the measurements are taken on the “same” rock.
1.7.5 **Select a homogenous piece of core that represents the rock type**. If there is a lot of variation in the core take more readings. If there is a discrepancy and differing rock types haven’t been recorded then this needs to be fed back to the geologist.
1.7.6 Perpendicular is the preferred point load test to take if there is nothing else to choose from. If the rock is badly fractured then point load cannot be taken and should be skipped.
1.7.7 Make sure to calibrate the point load each day before taking any measurements. To calibrate; pump until the cones meet and then press the lower cone back to the bottom. Repeat three times. Make sure to use the pumping stick as much as possible when lowering the cone, don’t press the arm. When this is done set the display to *ZERO* and *PEAK.*
1.7.8 Between each measurement
   - Clean the sides of the cone
   - Open the valve
   - Press the cone down to at least 7
   - Close the valve
   - Pump three times
   - Set to *ZERO*
1.7.9 Photograph if necessary.

1.7.10 Make sure the file is saved with the right naming convention under *Geotechnical* log -> *Point load* folders.

1.7.11 Once point load is complete ensure hole is stored as per Core Storage protocols.

- Pallets containing non-sampled core shall be put in the temporary area. The technician then labels the pallet and moves it to its right place in the storage area.
- Pallets containing sampled core shall be put; near the exit roller by the sawing room, while the actual samples for sawing are temporarily put on a pallet under the "electrical box". After sawing it, the technician returns the sampled pallets onto the pallet containing the remnants of the hole in order and moves completed hole to storage area labeling pallet.
- 22mm core is packed 3*15 boxes for one pallet. 38mm core is packed 3*10 boxes per pallet. 63,5mm core is packed 3*8 boxes per pallet. 51mm core is packed 3*7 boxes per pallet.

1.8 Sawing



1.8.1 Remove the sampling from GEO tab and place it under SÅG tab, print the sawing list.

1.8.2 Read sawing list then take sample bag and mark the bag with the sample number using a black permanent marker

1.8.3 Before you start sawing:

- No personnel is authorized to operate saw without training and sign off by authorized operator.
- Turn the fan on, located under the camera stand.
- Turn the water on, located next to the sink behind the sawing both. One handle for warm water and one handle for cold water.
- Make sure you have the appropriate safety gear on (see the signs next to the door in to the sawing both
- Make sure the size of the core guide matches the size of the core you are about to saw.
- Inspect the blade for wear and tear and make sure it isn't skewed.
- Turn the main switch on and turn the tachometer to 400.

- When turning everything off, repeat steps in reverse.

1.8.4 Technician - saw a third of the core along the saw cut line (if present or use orientation line) and insert the samples into the sample bags with corresponding sample numbers, and put in the correct sample number in the bag with the sample then update whiteboard.

1.8.5 Load plastic bags into oven for drying overnight minimum 12 hours drying – check moisture content of bags before completing density.

1.9 Density

1.9.1 Note: density measuring is conducted on all drill core samples

1.9.2 Make sure that the water is room temperature by filling it up a day in advance

1.9.3 Make sure that the correct samples and lists are provided by geologist and make sure that the samples all match the list provided.

1.9.4 Ensure that you have completed density training with an experienced and competent person before completing task and if any problems or discrepancies arise during measuring – talk with your supervisor.

1.9.5 Calibrate both scales before use and every 40 samples.

1.9.6 Weigh the sample in the metal bowl try to get at least1.1kg of sample or take the entire sample (you can only weigh what you have) – **Make sure the scale stops before entering value in the density list.**

1.9.7 Weighing in water. Take the first metal bowl and pour the drill core into the colander.

1.9.8 Ensure all material from the metal bowl enters the colander, bang all sample out and clean with a dry cloth and put material into colander as well.

1.9.9 Clean metal bowl with a lightly moistened cloth and allow drying then reuse.

1.9.10 Lower the colander into the water slowly. **Make sure the scale stops before taking reading – this can take a while as the scale is extremely sensitive 0.05g so walking or doors closing can change the result.** Enter the whole value into list.

1.9.11 Lift the colander out of the water, and put the drill core back into the sample bag (leave bag open and place ready to go to the lab.

1.9.12 Go back to step 1.9.5 and repeat.

1.9.13 Check all data for errors

1.10 Sample dispatch

1.10.1 Fill in the sample batch and save a copy under correct directory on server.

1.10.2 Remove air from sample bag, staple and load into cardboard box. Label the box with “*Nordic Iron Ore Sample no: X-X*”.

1.10.3 Maximum weight for each box is 35kg as this is the weight limit of Bussgods.

1.10.4 Send samples to a certified laboratory together with the sample batch.

1.11 Sample Received

1.11.1 Place the “fraktsedel”- paper in the folder called “mottaget gods”.

1.11.2 Update the whiteboard

1.12 Magnetic Susceptibility

1.12.1 Taking the measurements

- Make sure to not place the bag on top of a metallic surface during measuring.
- Shake bag to hand homogenise.
- Take measurements on each side and then the bottom, recording results in the spreadsheet Magsus_Satmagan placed on G: drive.

1.13 Satmagan

1.13.1 To prepare the samples –
  - Select correct sample and add to ampule ensuring ampule is clean.
  - Insert certified standards, blanks and duplicates into the sample train at the rate of one per every 5 samples.

1.13.2 Starting the machine
  - Turn power on and let machine warm up for 20 minutes prior to use.
  - Run through all ten calibration samples and record in Magsus_satmagan spreadsheet – See training manual.

1.13.3 Taking the measurements
  - Fill data into the file called Magsus_Satmagan on G drive.

1.13.4 Update whiteboard to reflect on completion

- Clean all ampules before use ensuring you wear your PPE due to dust:

Appendix B

List of Historical Geological Maps & Sections

Deposit	old level m	new level m	horizontal	Comments	deposit	old level m	new level m	horizontal
Hugget-Sandell	0	40	Y		Kalvgruvan	0	40	Y
Hugget-Sandell	80	120	Y		Kalvgruvan	10	50	Y
Hugget-Sandell	120	160	Y		Kalvgruvan	20	60	Y
Hugget-Sandell	160	200	Y		Kalvgruvan	25	65	Y
Hugget-Sandell	200	240	Y		Kalvgruvan	30	70	Y
Hugget-Sandell	240	280	Y		Kalvgruvan	45	85	Y
Hugget-Sandell	280-1	320	Y		Kalvgruvan	50	90	Y
Fredmundsaberget	280-2	320	Y	exploration drift to the East	Kalvgruvan	60	100	Y
Fredmundsaberget	280-3	320	Y	exploration drift to the East	Kalvgruvan	70	110	Y
Fredmundsaberget	280-4	320	Y	exploration drift to the East	Kalvgruvan	80	120	Y
Fredmundsaberget	280-5	320	Y	exploration drift to the East	Kalvgruvan	90	130	Y
Hugget-Sandell	330	370	Y		Kalvgruvan	100	140	Y
Hugget-Sandell	380	420	Y		Kalvgruvan	140	180	Y
Hugget-Sandell	430	470	Y		Kalvgruvan	160	200	Y
Hugget-Sandell	480	520	Y		Kalvgruvan	180	220	Y
Hugget-Sandell	530	570	Y		Kalvgruvan	200	240	Y
Vertical section_E1				Overview of vertical section 18-39	Kalvgruvan	220	260	Y
Vertical section_10					Kalvgruvan	260	300	Y
Vertical section_11					Kalvgruvan	280	320	Y
Vertical section_12					Kalvgruvan	300	340	Y
Vertical section_13					Kalvgruvan	320	360	Y
Vertical section_14					Kalvgruvan	340	380	Y
Vertical section_15					Kalvgruvan	360	400	Y

Deposit	old level m	new level m	horizontal	Comments	deposit	old level m	new level m	horizontal
Vertical section_16					Vertical section_1			
Vertical section_17					Vertical section_2			
Vertical section_18					Vertical section_3			
Vertical section_19					Vertical section_4			
Vertical section_20					Vertical section_5			
Vertical section_21					Vertical section_6a			
Vertical section_22					Vertical section_6b			
Vertical section_23					Vertical section_7			
Vertical section_24					Vertical section_8			
Vertical section_25					Profile 1-9 C-D			
Vertical section_26					Profile 1-9 E-F			
Vertical section_27					Profile 3-5 A-B			
Vertical section_28								
Vertical section_29								
Vertical section_30								
Vertical section_31								
Vertical section_32								
Vertical section_33								
Vertical section_34								
Vertical section_35								
Vertical section_36								
Vertical section_37								
Vertical section_38								

Deposit	old level m	new level m	horizontal	Comments	deposit	old level m	new level m	horizontal
Vertical section_39								
Vertical section_40								
Vertical section_41								
Vertical section_42								