



TALGA RESOURCES LTD

# IRON PROJECTS UPDATE

August 2013

 ASX: TLG

# SKARN **IRON ORE** IN SWEDEN

**236 Mt**  
Total Combined JORC Resources

**30.7% Fe**  
In-situ Iron Grade

**0-20km**  
Distance from deposits to road

**20-60km**  
Distance by road to existing railway

**100%**  
Owned by Talga

**22%**  
Corporate Tax Rate

**0.2%**  
Minerals Tax Rate

**IRON DEPOSITS SWEDEN**

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# Executive Summary



- ▶ Talga Resources Ltd (“Talga”) is a mineral exploration & development company that listed on the Australian Stock Exchange (“ASX”) in July 2010.
- ▶ The Company wholly owns multiple graphite, iron ore and copper/gold projects in Sweden gained through the acquisition of a Teck Resources subsidiary in 2012, as well as multiple Australian gold assets owned since listing.
- ▶ The Swedish assets included a group of skarn iron deposits strategically located east from the main Kiruna iron ore belt, situated between multiple magnetite concentrators and adjacent to roads, rail, power and port access.
- ▶ Work undertaken by Talga on the iron projects includes diamond drilling, sampling and the estimation of JORC Code Inferred and Indicated mineral resources.
- ▶ Combined total JORC mineral resources have been increased to **235.6Mt @ 30.7% Fe** with 87.0Mt @ 28.3% Fe in JORC Indicated category. Additional JORC compliant exploration targets offer further growth potential.
- ▶ Talga seeks to divest the iron projects by sale or joint venture, to concentrate on its nearby graphite and copper-gold projects.



# Advantages of Northern Sweden for Mining Projects

- ▶ Corporate tax rate **22%**, Mineral Production tax **0.2%**.
- ▶ **Established** bulk commodity infrastructure with open access rail, road and ports available.
- ▶ Low cost **power** from hydroelectricity and nuclear grid.
- ▶ Well established **quality mining province** with highly skilled workforce, neighbouring producers and support industries.
- ▶ Fennoscandian Shield hosts **large mineral deposits** but remains under-explored relative to peers.
- ▶ **Quality jurisdiction**; Sweden ranked 2<sup>nd</sup> of 96 mining jurisdictions in the **world** by Fraser Institute Survey 2012/13.



*Boliden's Aitik Cu-Au mine near Malmberget, northern Sweden.*

# Established bulk commodity mining and transport infrastructure



440Kv grid power.



Coal loader, port of Luleå, Sweden.



Electrified rail transport of iron ores from Kiruna district to port of Narvik. Photo Mark Thompson/Talga

# Port of Luleå

- ▶ Largest dry bulk handling port in Sweden.
- ▶ Current draught 11.8m and 30m fairway (DWT 55,000).
- ▶ Deepening to 15.0m and 50m fairway in 2016.
- ▶ Currently exporting 9Mt annum including magnetite concentrates.
- ▶ Spare capacity; Quay length up to 770m currently available.
- ▶ All year access.



*Aerial view of Luleå Port*



*Photo Mark Thompson/Talga Oct 2012*

# Port of Narvik

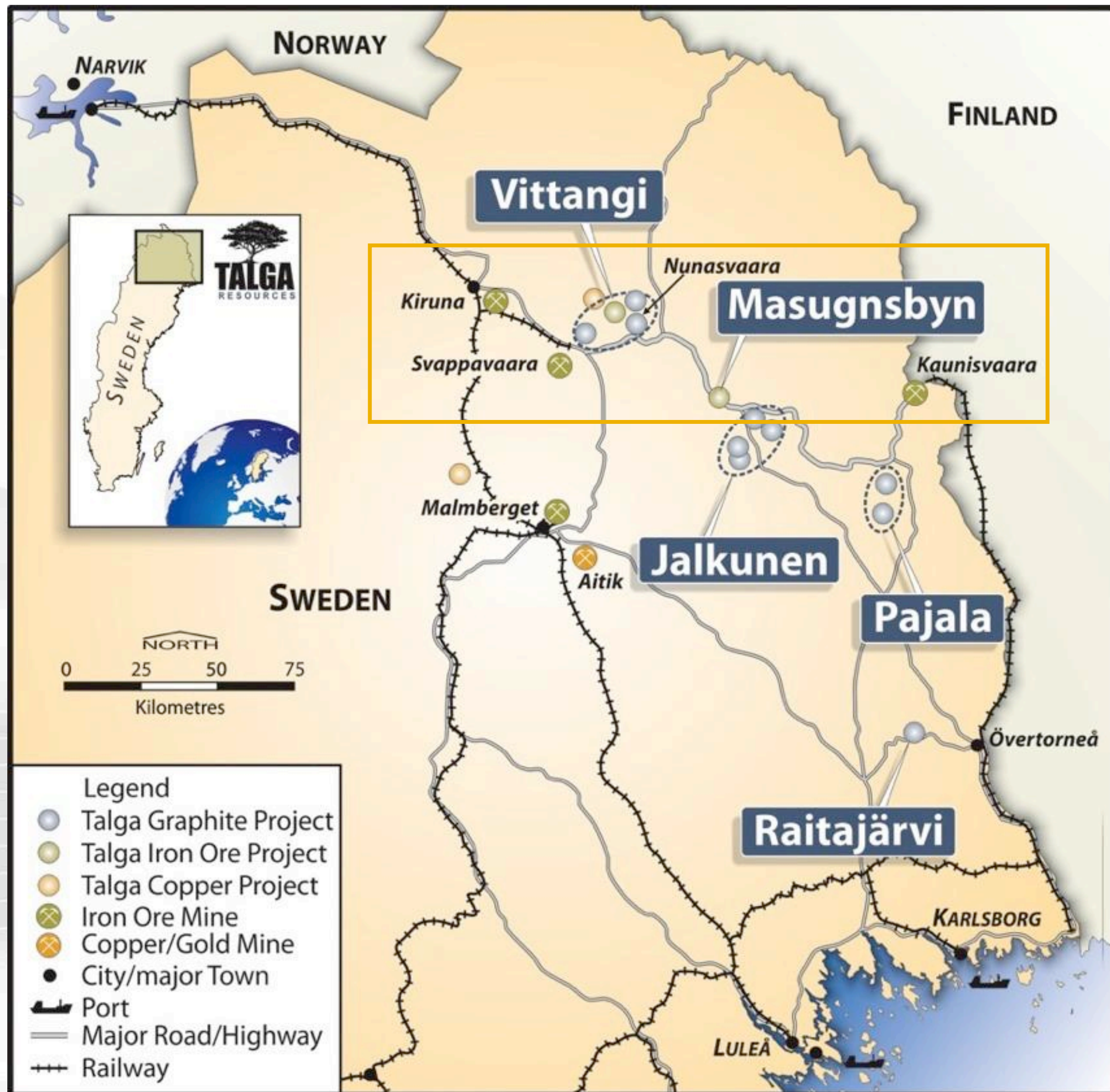


- ▶ Deep water port in Norway loading **Capesize** ships.
- ▶ Setup to transport magnetite concentrates from Kiruna district mines in Sweden.
- ▶ Currently exporting 18Mt annum with expansion potential to 50Mt by 2020.
- ▶ Exporting to Middle East and Asia.
- ▶ All year access.



Photo Mark Thompson/Talga Oct 2012

# Talga's Skarn Iron Projects

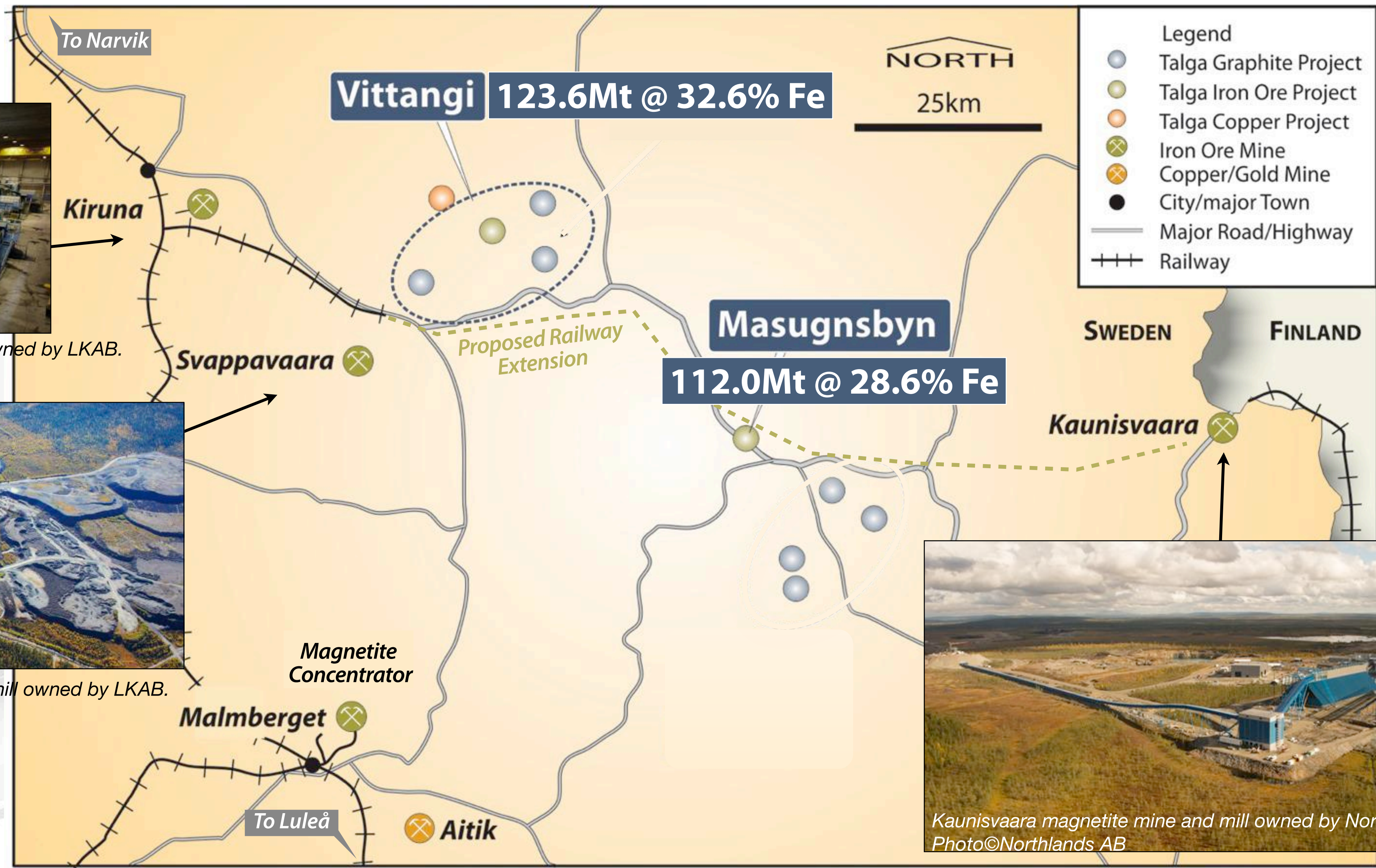


- ▶ Talga's skarn iron deposits are well located adjacent to high quality transport & power supplies, and are situated between producing magnetite iron mines.
- ▶ In **skarn** type deposits the iron is emplaced by magmatic-hydrothermal activity at high temperature. As a result the coarser magnetite grain size can have substantial advantages over sedimentary style deposits (BIF type).
- ▶ Currently the most advanced project is **Masugnsbyn** with a JORC resource 112Mt @ 28.6% iron as magnetite\* ("Fe"). Additional JORC resources total 124Mt @ 32.6% Fe at **Vittangi**, with further JORC compliant exploration targets defined.
- ▶ Talga is targeting modest but high grade magnetite concentrate production, and believes the total JORC resource inventory of 236Mt @ 30.7% Fe is strategically located to become a supplier to the Middle East and Asia.

\*Fe or Fe<sub>mag</sub>, both refer to the calculated iron grade which is total iron less forms of iron other than magnetite (sulphides, silicates etc).



# Magnetite mining district with established milling and transport infrastructure



Kiruna magnetite mine and mill owned by LKAB.  
Photo©Fredric Alm/LKAB



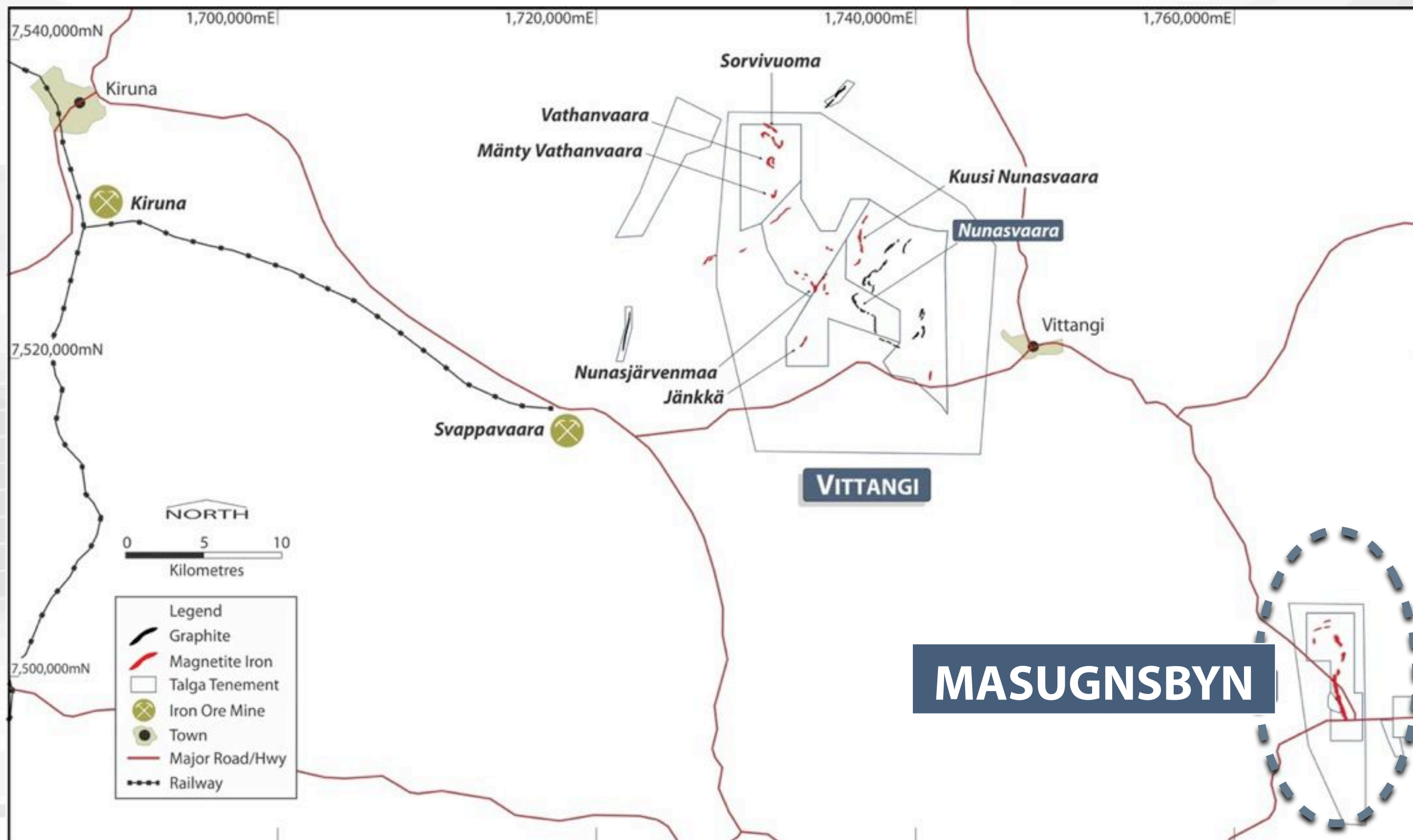
Svappavaara magnetite mine and mill owned by LKAB.  
Photo©Fredric Alm/LKAB



Kaunisvaara magnetite mine and mill owned by Northlands AB.  
Photo©Northlands AB

# Masugnsbyn Project

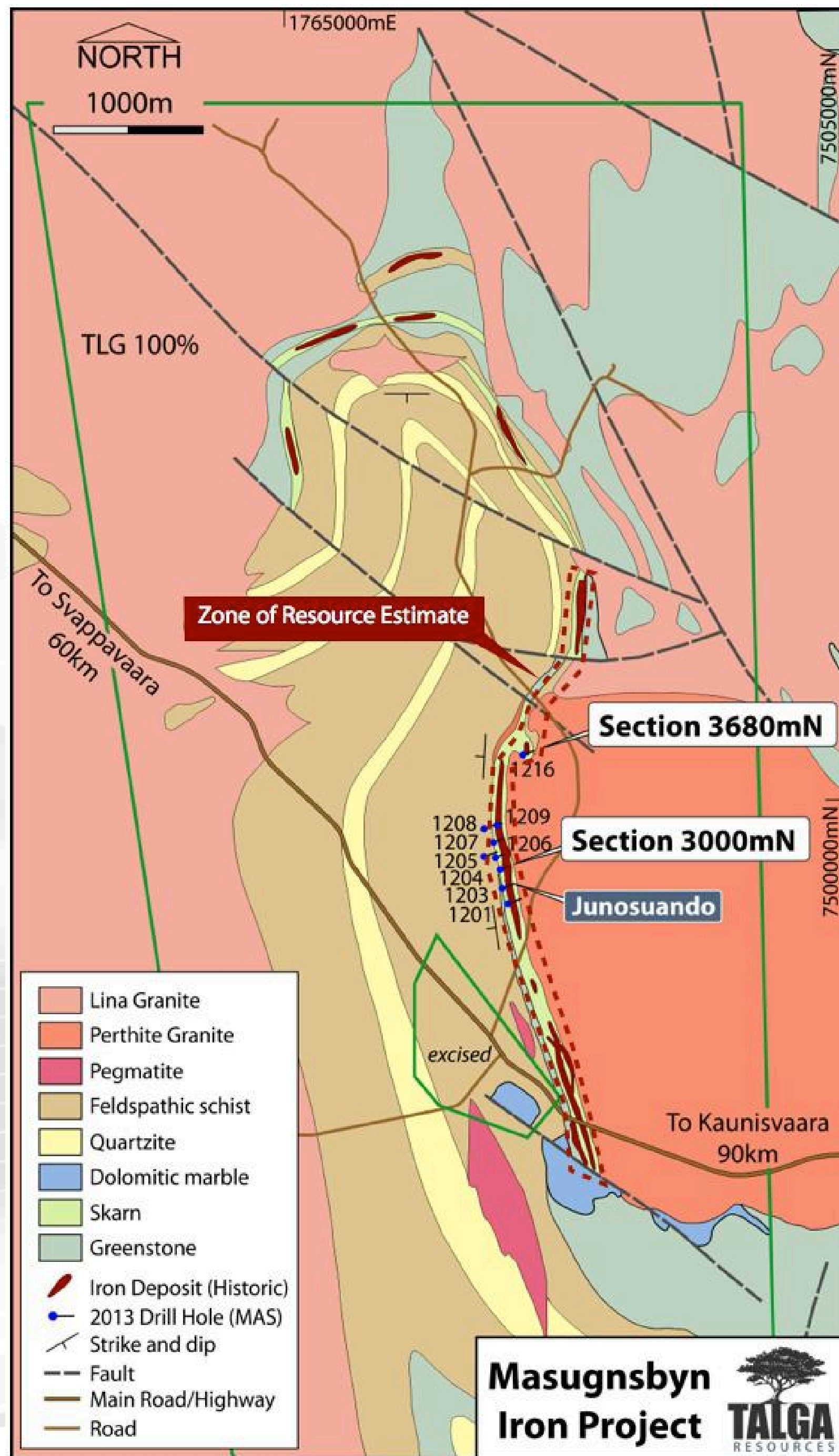
- ▶ Skarn magnetite deposit mined from 1644-1805.
- ▶ Coarse grained with potential for beneficiation to high grade product.
- ▶ Advantages of zoned high grades near surface, proximal to established road and rail, low cost grid power.



*Reviewing historic iron mine workings at Masugnsbyn*

# Masugnsbyn Project - Work to Date

- ▶ Tested by the Swedish Geological Survey ("SGU") last in 1965-1970.
- ▶ 68 historic diamond core holes focussed on the largest single deposit, Junosuando, over approximately 3km strike.
- ▶ Talga completed a further nine diamond core holes in Oct 2012 to upgrade the deposit to JORC Code Indicated and Inferred status.
- ▶ Remains open at depth and additional deposits in northern zone host further mineralisation.



SGU Drillhole 67505: 25m @ 50% Fe

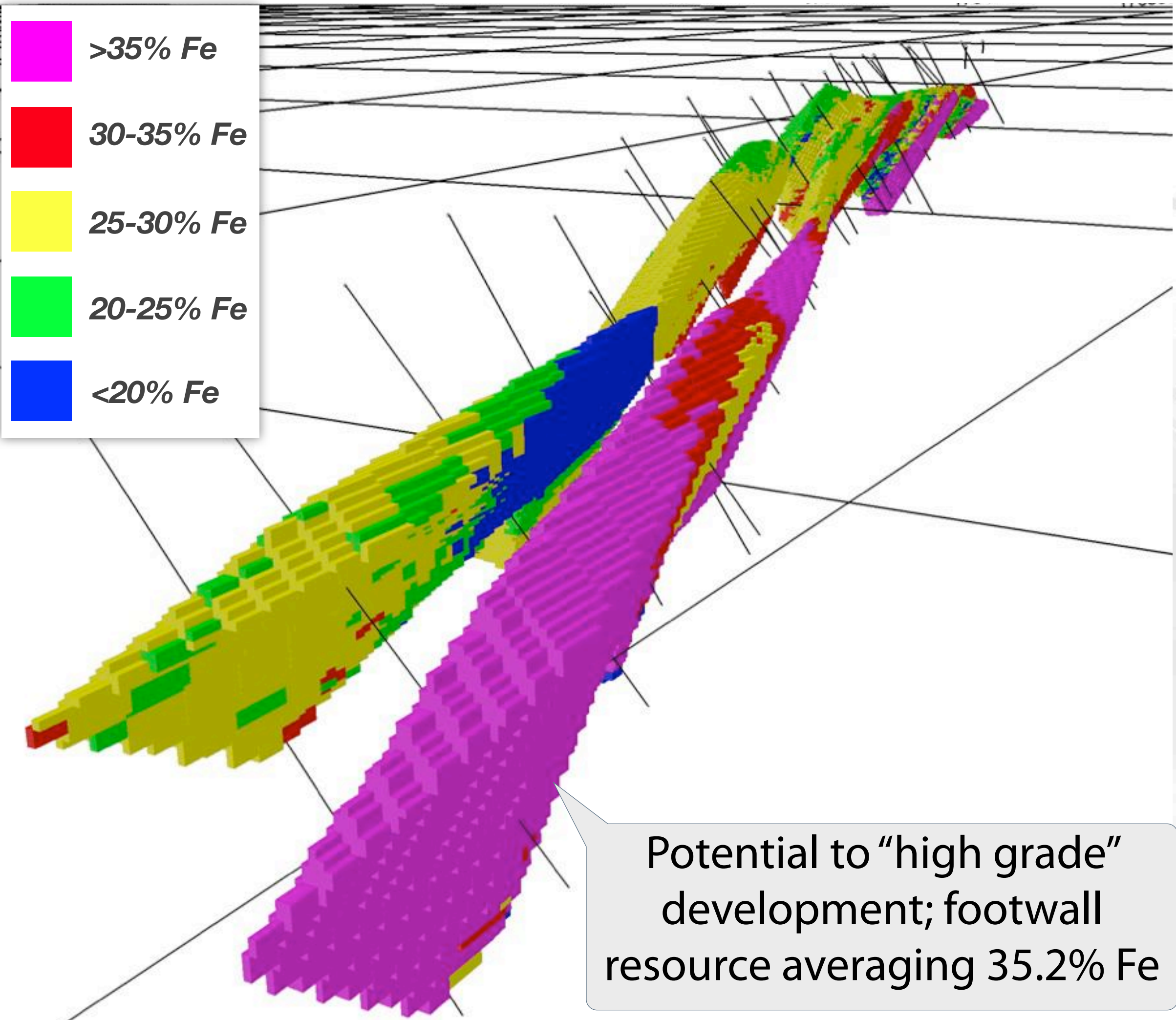
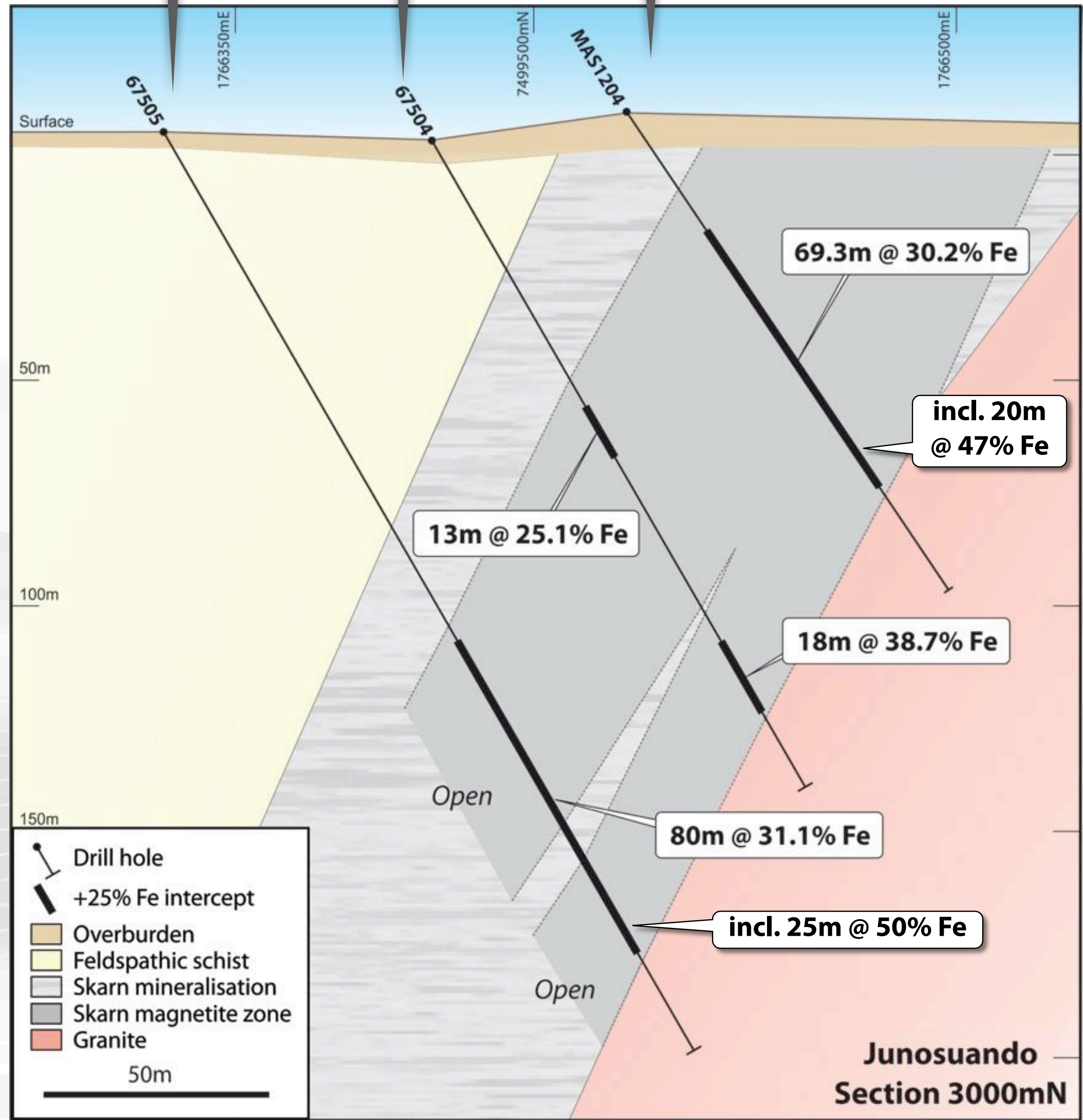
## JORC Resource May 2013

*Masugnsbyn Global Resource (See Appendix for details)*

Resource Classification	Tonnes (Mt)	%Fe
Indicated	87.0	28.3
Inferred	25.0	29.5
<b>Total</b>	<b>112.0</b>	<b>28.6</b>

### Historic Drilling

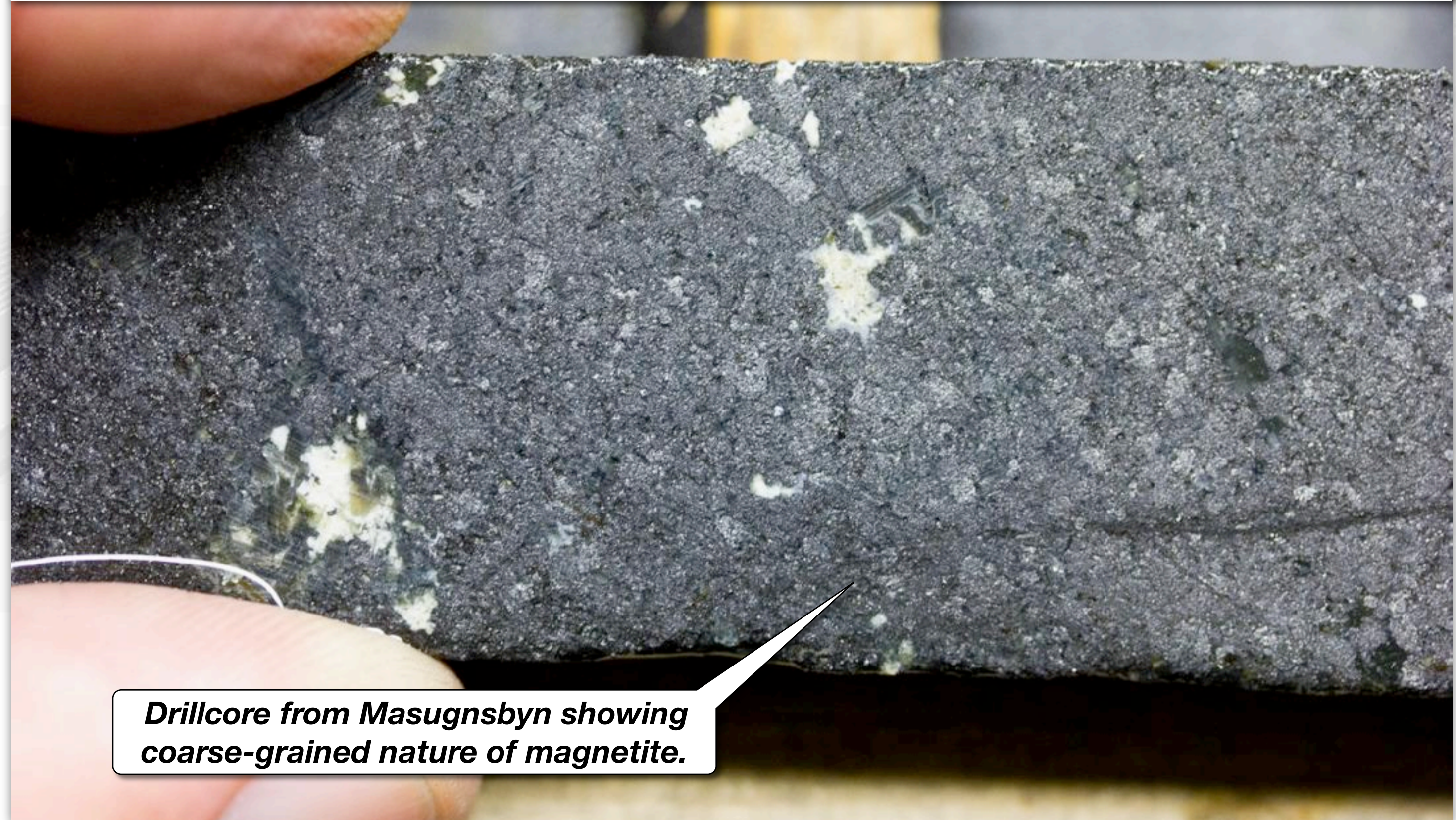
### Talga Drilling



# Pre-Concentrate

- ▶ Skarn style deposits commonly use magnetic concentration with reverse flotation (to depress sulphides common in skarn systems) and achieve commercial grade concentrate compared to BIF-style deposits.
- ▶ **Initial** Davis Tube Recovery (“DTR”) tests of Masugnsbyn drillcore samples underway.
- ▶ **Grind size** test with **no flotation** indicates coarse grained pre-concentrate can produce grades >69% Fe.
- ▶ Next stage DTR work will test coarser grind sizes and flotation towards developing a final concentrate specification.

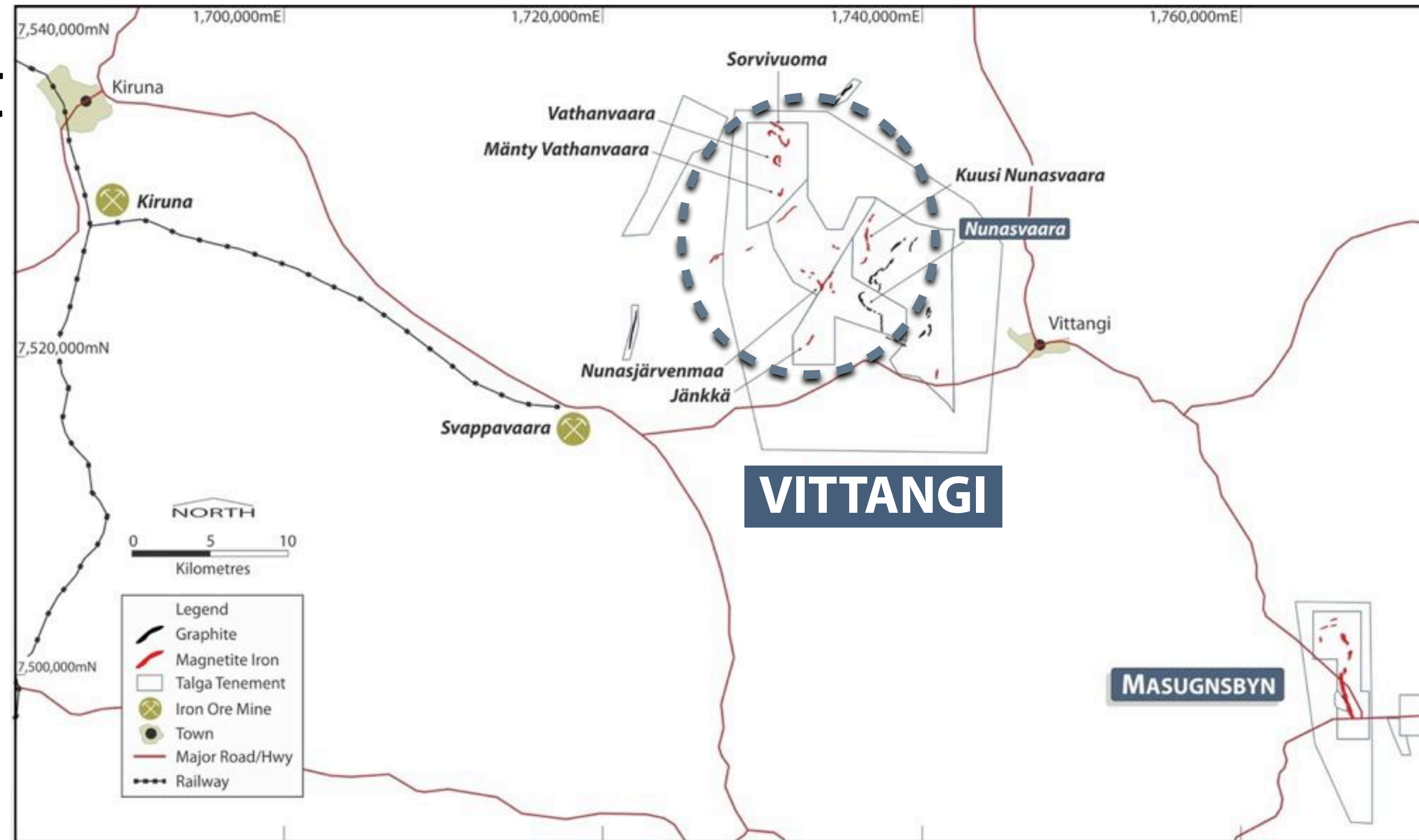
Pre-Concentrate p100 = 75 microns										
Percent %	Fe	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P	S	V	TiO <sub>2</sub>	CaO	MgO	Mass Recovery
Concentrate	69.3	0.10	0.70	0.003	1.82	0.016	0.09	0.09	1.1	46.1
Head Assay	37.5	2.90	20.08	0.142	2.22	0.007	0.21	2.18	14.8	100.0



*Drillcore from Masugnsbyn showing coarse-grained nature of magnetite.*

# Vittangi Skarn Magnetite Project

- ▶ The Vittangi project comprises five skarn iron deposits defined by the Swedish Geological Survey in the 1970's with geophysics, trenching and 37 diamond drill holes for 6,055 metres.
- ▶ Based on this work JORC compliant maiden Inferred Resources totalling **123.6Mt @ 32.6% Fe** have been estimated by Talga, bringing the Company's total Swedish iron resources to **235.6Mt @ 30.7% Fe**.
- ▶ The historic exploration data also defined **additional** JORC compliant Exploration Targets<sup>1</sup> of 50-83Mt grading 30-35% Fe within the project.
- ▶ Favourably located 30km from railhead and LKAB magnetite mill at Svappavaara.



*Vittangi iron project In-Situ JORC Resources July 2013*

Deposit	Tonnes (Mt)	Grade %Fe	JORC Category
Vathanvaara	51.2	36.0	Inferred Resource
Kuusi Nunasvaara	46.1	28.7	Inferred Resource
Mänty Vathanvaara	16.3	31.0	Inferred Resource
Sorvivuoma	5.5	38.3	Inferred Resource
Jänkkä	4.5	33.0	Inferred Resource
<b>Total</b>	<b>123.6</b>	<b>32.6</b>	

# Vittangi Project

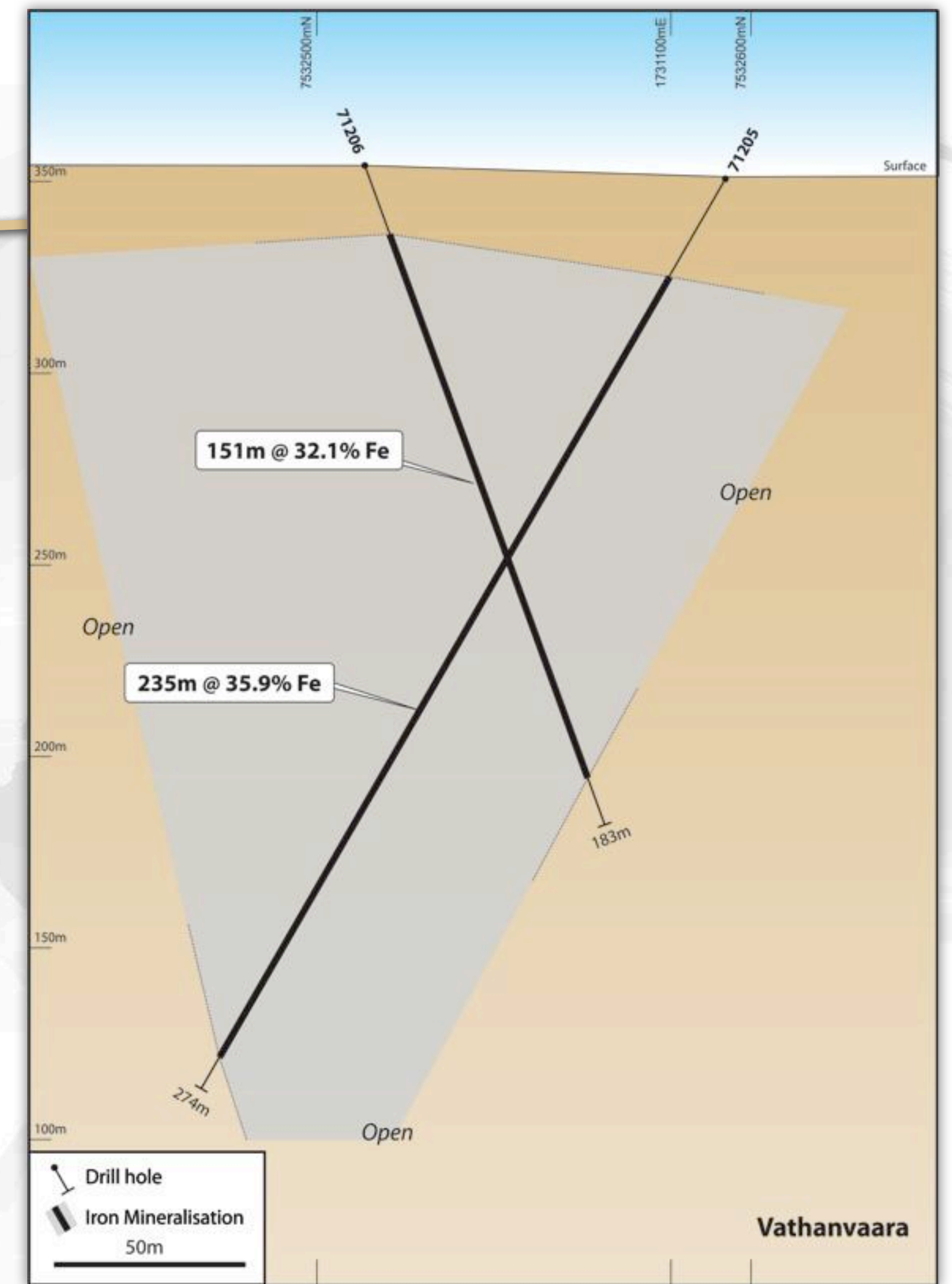
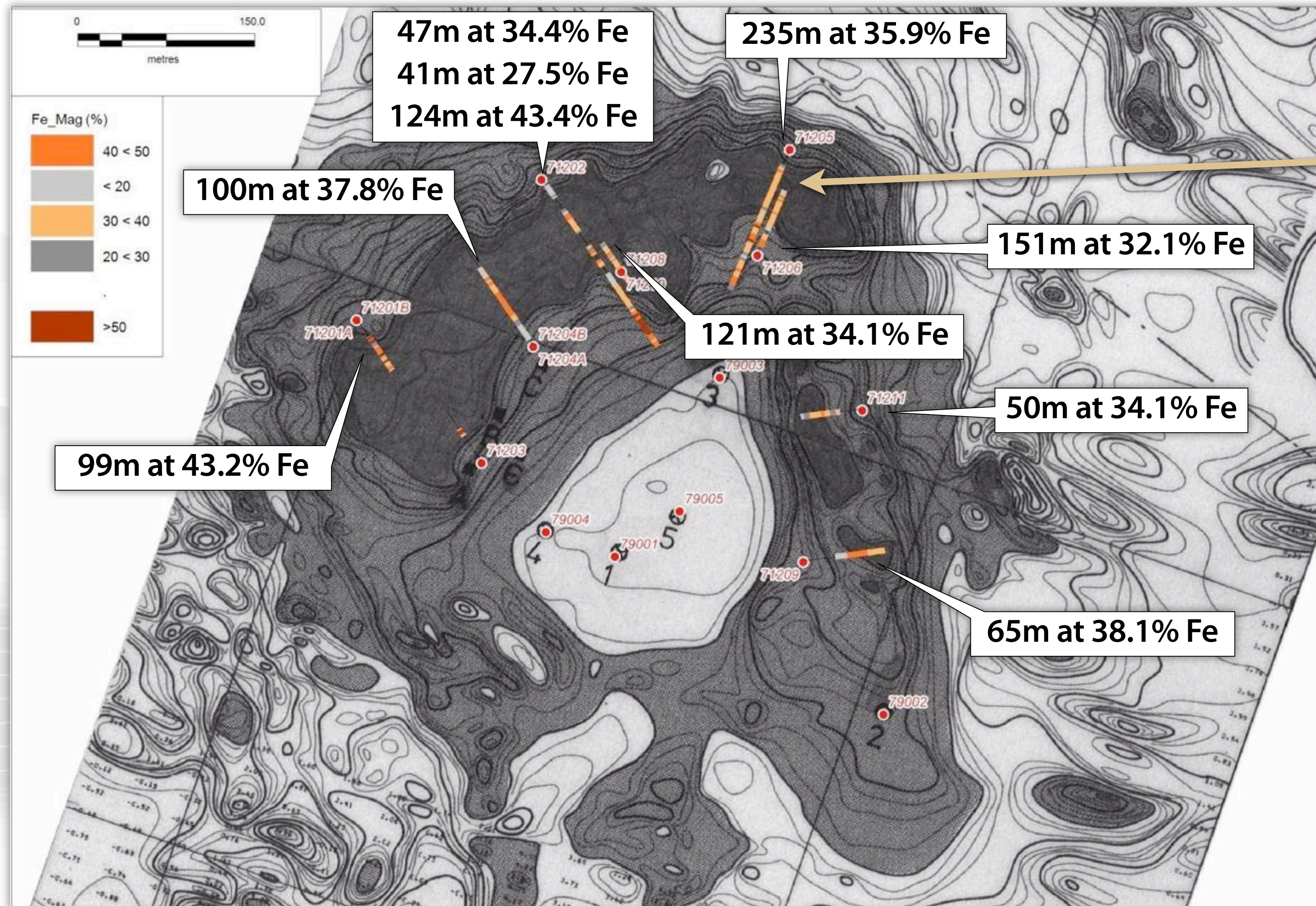
## Drilling highlights



Deposit	Hole ID	East (RT90)	North (RT90)	Hole Depth (m)	Azi	Dip	From (m)	To (m)	Interval (m)	% Fe
Jänkkä	Jank 71001	1733109	7521322	161	112	-60	46	98	<b>52</b>	<b>26.6</b>
Kuusi Nunasvaara	72502	1736757	7527975	225	292	-60	104	160	<b>56</b>	<b>26.3</b>
Mänty Vathanvaara	71001	1731343	7530271	350	0	-60	63	163	<b>100</b>	<b>30.2</b>
Sorvivuoma	72201	1730764	7534130	165	0	-60	20	92	<b>72</b>	<b>30.7</b>
Sorvivuoma	72202	1730559	7534105	146	0	-60	45	87	<b>42</b>	<b>35.4</b>
Vathanvaara	71201B	1730729	7532465	150	150	-70	51	150	<b>99</b>	<b>43.2</b>
Vathanvaara	71202	1730896	7532577	334	150	-60	61	108	<b>47</b>	<b>34.4</b>
							134	175	<b>41</b>	<b>27.5</b>
							210	334	<b>124</b>	<b>43.4</b>
Vathanvaara	71204B	1730875	7532437	183	330	-60	50	150	<b>100</b>	<b>37.8</b>
Vathanvaara	71205	1731107	7532595	274	208	-60	30	265	<b>235</b>	<b>35.9</b>
Vathanvaara	71206	1731071	7532507	183	28	-70	19	170	<b>151</b>	<b>32.1</b>
Vathanvaara	71208	1730955	7532497	171	330	-80	9	130	<b>121</b>	<b>34.1</b>
Vathanvaara	71209	1731083	7532247	140	85	-60	75	140	<b>65</b>	<b>38.1</b>
Vathanvaara	71211	1731146	7532373	109	265	-60	40	90	<b>50</b>	<b>34.1</b>

# Vittangi project, Vathanvaara deposit

Wide high grade magnetite zones remain open along strike and at depth

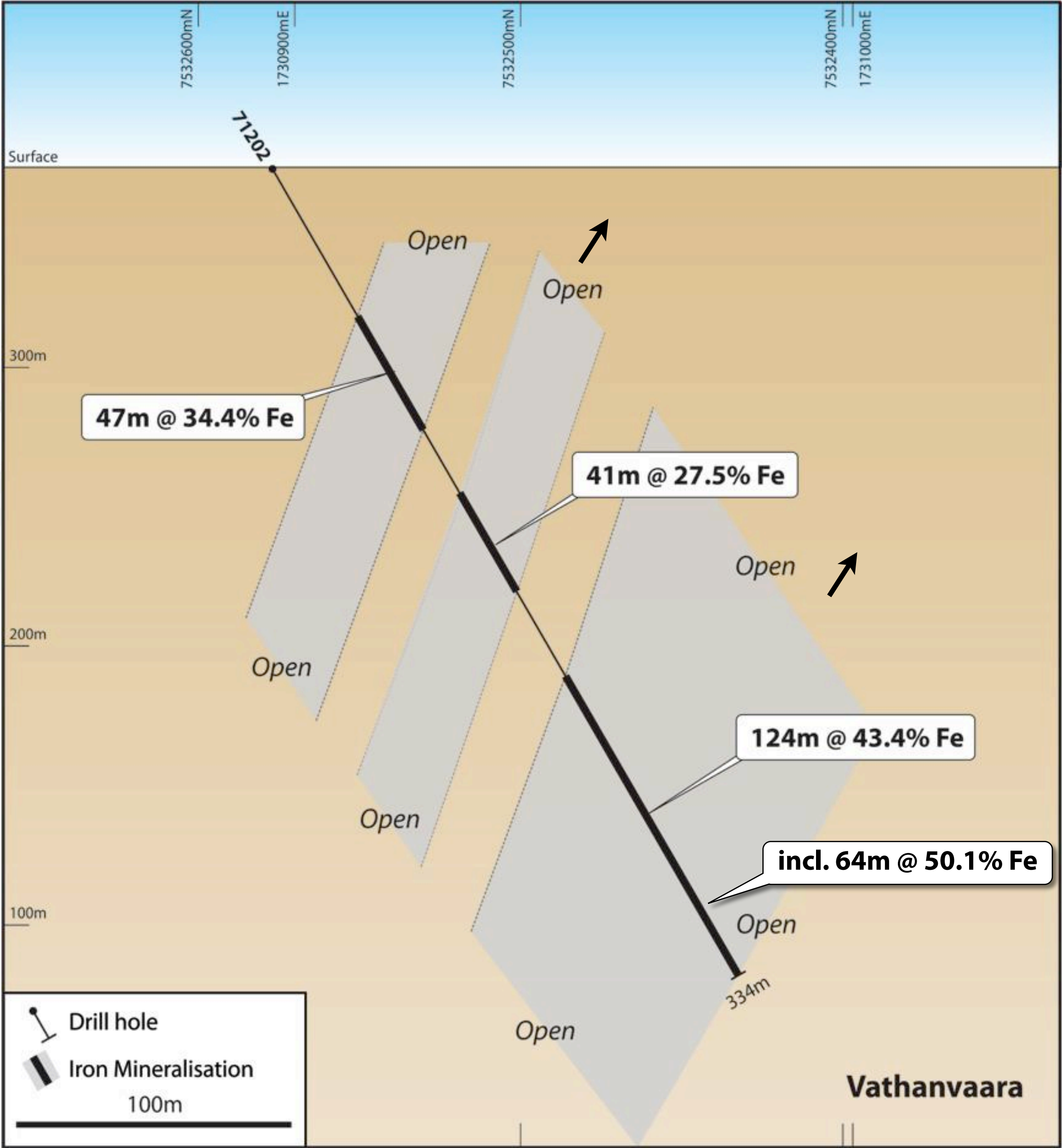
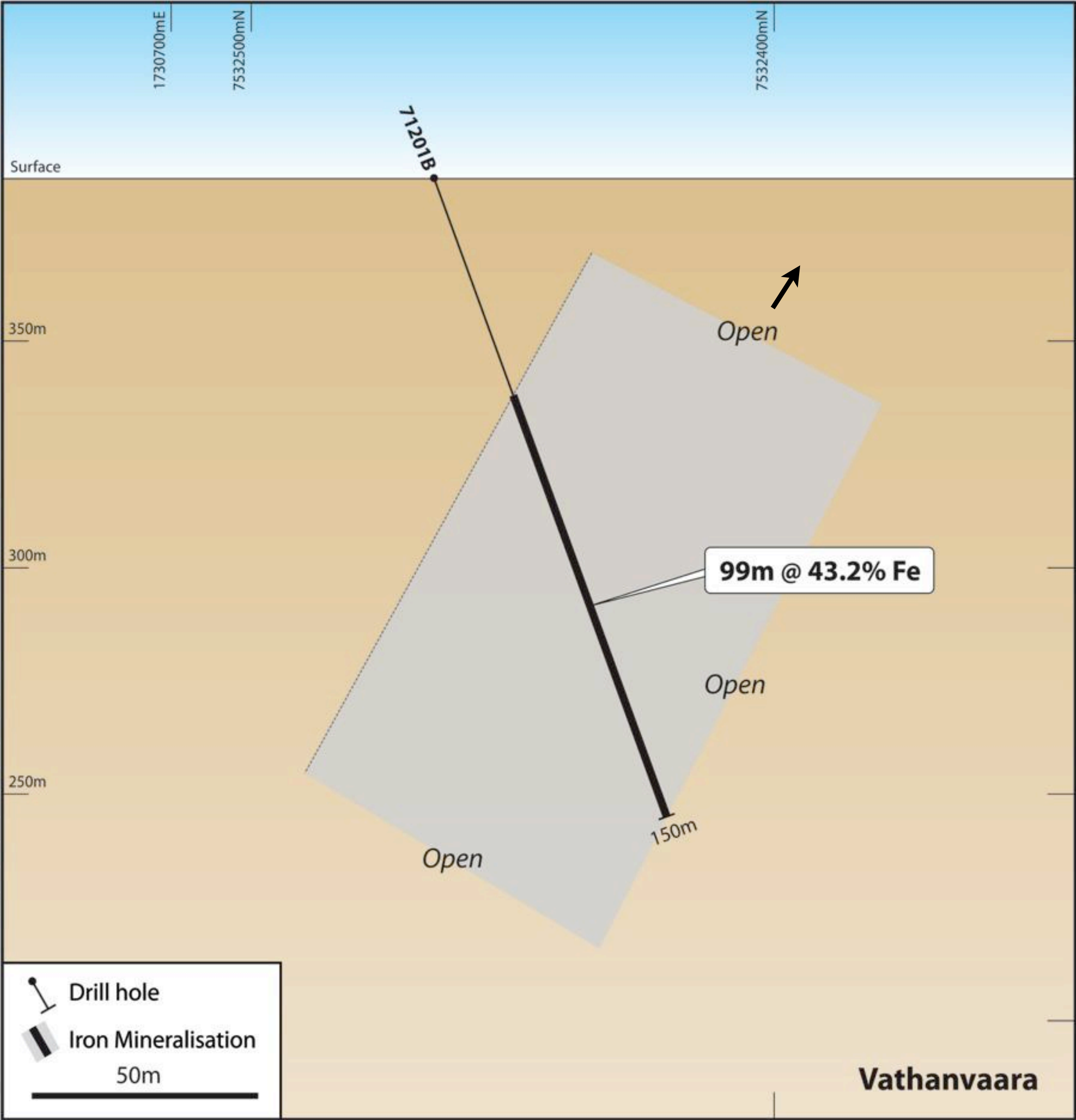


Plan of Vathanvaara iron deposit, historic drill holes and results over ground magnetic contours.

Cross-section of Vathanvaara iron deposit.



# Vathanvaara cross sections





# Development Potential

- ▶ Relatively simple and proven processing of the magnetite ore is expected to deliver a high quality concentrate at coarse grain sizes.
- ▶ Proximal to road and open access rail infrastructure.
- ▶ Rail lines connect to open access ports which currently load up Panamax to Cape-sized vessels.
- ▶ Located close to European and Middle East iron ore markets.
- ▶ Deposits situated between two magnetite concentrators belonging to LKAB and Northlands; toll treatment potential.

*Svappavaara magnetite mine and mill owned by LKAB, approximately 30km by road from the Vittangi project and 60km from Masugnsbyn project. After an earlier phase of open pit mining the mill remained operational for Kiruna ore. The open pit is currently being dewatered to be put back into production. Photo©Fredric Alm/LKAB.*



# Talga Iron Project Highlights

- ▶ July 2013 mineral resource estimates **double** size of Talga's strategically located skarn iron resources in Sweden.
- ▶ Total JORC mineral resources increased to **235.6Mt @ 30.7% Fe** with 87.0Mt @ 28.3% Fe in JORC Indicated category.
- ▶ The coarser grained skarn magnetite iron deposits can have substantial advantages over sedimentary style deposits (BIF type). Similar deposits in area mine 25-45% Fe ores that **beneficiate** to 68-70% Fe for export with low deleterious elements.
- ▶ Advantages include excellent **location, shallow** depth and **high-gradable** ore types (e.g. Vittangi project drillhole 71202 returned 64m @ 50.1% Fe including 5m @ 71.6% Fe).
- ▶ All deposits show excellent potential to expand and convert to higher status resources.
- ▶ Strategic partners being sought to advance the projects, which are located adjacent to established transport and milling infrastructure. Potential toll treatment options present.



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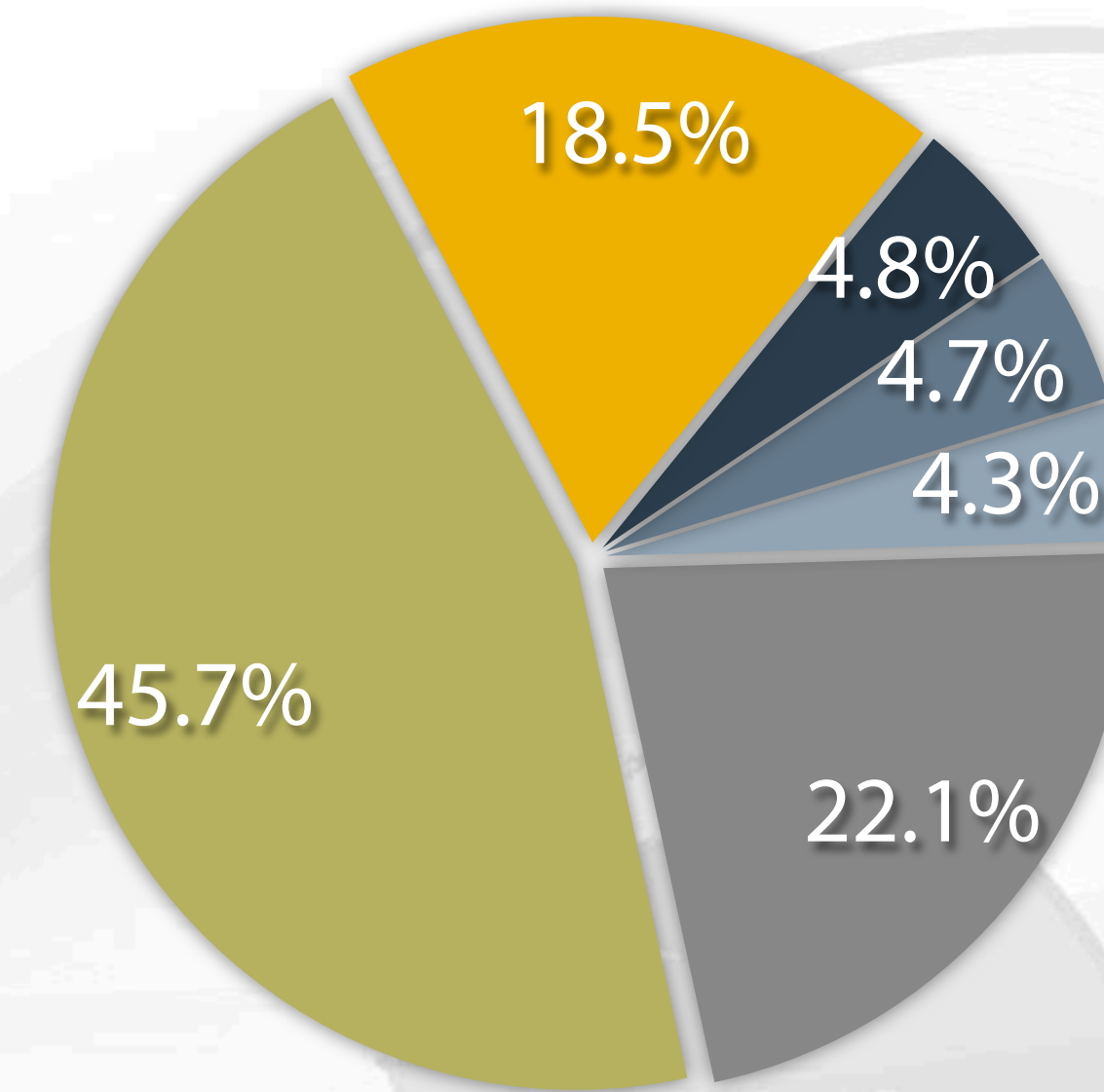


# Appendix



## Corporate Overview

ASX Ticker/Code	<b>TLG</b>
Shares	<b>55.3 M</b>
Options (unlisted/employee) 2.75m @ 40c director exp 30.11.2014 0.5m @ 35c employee exp 21.7.2015 0.5m @ 45c employee exp 3.10.2016	<b>3.75 M</b>
Market Capitalisation (Fully diluted @\$0.08)	<b>\$4.7 M</b>
Cash (At June 30,2013. \$=AUD)	<b>\$0.6 M</b>
12 Month low/high (At 26 July 2013)	<b>\$0.05/0.43</b>



● Board	18.6%
● Kin Chun Wong	4.8%
● United Overseas Service Ltd	4.7%
● JP Morgan Nominees	4.3%
● Balance of Top 20	22.2%
● Retail & Others	45.4%

**Top 20 own 54.6%**

# Board & Management



Sean Neary

B.Ec, M.Law (Tax), CPA  
*Chairman &  
Non-Executive Director*



Mr Neary is a Certified Practising Accountant with more than 25 years experience in finance and commercial advisory roles. His experience includes more than ten years in audit and tax consulting with 'Big Four' and second tier accounting practices in Australia, and commercial experience including six years in a finance role with US based chemical giant, Dow Corning. In addition to his leadership qualities, Mr Neary brings to the Talga board a wealth of financial industry and corporate strategy experience .

Mark Thompson

MAIG, MSEG  
*Founder &  
Managing Director*



Mr Thompson has more than 20 years industry experience in mineral exploration and mining management. Since starting his career with production experience in both underground (Kambalda) and open-pit (Sons of Gwalia) mines he has worked throughout Australia, Africa and South America. He is a member of the Australian Institute of Geoscientists and the Society of Economic Geologists, and holds the position of Guest Professor in Mineral Exploration Technology at both the Chengdu University of Technology and the Southwest University of Science and Technology in China. In addition to his role with Talga Resources Ltd, Mr Thompson is a Non-Executive Director of ASX listed Phosphate Australia Ltd.

Piers Lewis

B.Comm, CA  
Non-Executive Director



Mr Lewis has more than 15 years global corporate experience and is currently Company Secretary for several ASX listed companies. In 2001 Mr Lewis qualified as a Chartered Accountant with Deloitte (Perth), and brings to the Talga board extensive and diverse financial and corporate experience from previous senior management roles with Credit Suisse (London), Mizuho International and NAB Capital. In addition to his role with Talga Resources Ltd, Mr Lewis is a Non-Executive Director of ASX listed Stratos Resources Ltd and Zeta Petroleum PLC.

# Talga Asset Structure and JORC Resources



100%

**GRAPHITE****IRON**

100%

**Talga Mining Pty Ltd  
(Sweden branch)**

100%

*Nunasvaara Graphite Mineral Resource @ 10% Cg low cut-off Nov 2012*

Classification	Tonnes (Mt)	Graphite (%Cg)
Indicated	5.6	24.6
Inferred	2.0	24.0
<b>Total</b>	<b>7.6</b>	<b>24.4</b>

*Raitajärvi Graphite Mineral Resource @ 5% Cg low cut-off Feb 2012*

Classification	Tonnes (Mt)	Graphite (%Cg)
Inferred	0.5	10.8

*Talga Iron Mineral Resources @ 20% Fe low cut-off July 2013*

Deposit	Tonnes (Mt)	Grade %Fe	JORC Category
Vathanvaara	51.2	36.0	Inferred Resource
Kuusi Nunasvaara	46.1	28.7	Inferred Resource
Mänty Vathanvaara	16.3	31.0	Inferred Resource
Sorvivuoma	5.5	38.3	Inferred Resource
Jänkkä	4.5	33.0	Inferred Resource
Masugnsbyn	87.0	28.3	Indicated Resource
Masugnsbyn	25.0	29.5	Inferred Resource
<b>Total</b>	<b>235.6</b>	<b>30.7</b>	

# References & Qualified Persons



**1 Exploration Targets:** The estimates of exploration target sizes in this announcement are in accordance with the guidelines of the JORC Code (2004) and should not be misunderstood or misconstrued as estimates of Mineral Resources. The potential quantity and quality of the exploration targets are conceptual in nature and there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

## **Competent Person's Statement**

The information in this report that relates to Resource Estimation is based on information compiled and reviewed by Mr Simon Coxhell of CoxsRocks Pty Ltd. Mr Coxhell is a consultant to the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Coxhell has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this document and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" ("JORC Code"). Mr Coxhell consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Exploration Results is based on information compiled and reviewed by Mr Darren Griggs and Mr Mark Thompson, who are members of the Australian Institute of Geoscientists. Mr Griggs and Mr Thompson are employees of the Company and have sufficient experience which is relevant to the activity to which is being undertaken to qualify as a "Competent Person" as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" ("JORC Code"). Mr Griggs and Mr Thompson consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.