

# NEMEX

## RESOURCES LIMITED

ACN 146 243 843



1 March 2013

### Fast Facts

#### Capital Structure

Shares on issue	42.6M
Options	27.3M
ASX Code	NXR

#### Directors &

#### Senior Management

**Patrick Flint**

Non- Exec Chairman

**Peter Turner**

Managing Director

**Paul Jurman**

Director &

Company Secretary

#### Project Highlights

##### Guinea (Iron)

- *High-grade iron discovery*
- *Large resource potential*
- *Targeting DSO production*
- *Modern, multi-user rail*

##### Côte d'Ivoire (Gold)

- *New licence applications*
- *Geophysical anomalies*
- *Exciting opportunity*
- *Under-explored country*

##### W Australia (Iron)

- *Woodley DSO Project*

#### Contacts

**Dr Peter Turner**

T: +61 8 9388 2277

[www.nemexres.com.au](http://www.nemexres.com.au)

## Initial Metallurgical Test Work Results, Télimélé Iron Project

Perth-based explorer Nemex Resources Limited (ASX: NXR) is pleased to announce results from initial metallurgical test work performed on three representative potential direct shipping ore (pDSO) samples from across the Boulere resource area, Télimélé Iron Project, west Guinea.

### HIGHLIGHTS

#### Metallurgical Test Work

- **Test work** indicates that Télimélé T1 mineralisation will produce a lump product of >60% Fe grade
  - ❖ Lump product **Fe values** range from **60.2 – 60.6% Fe (average 60.5% Fe)**
  - ❖ Lump **mass yield** ranges from **57 – 74% (average of 67%)**
  - ❖ Fines product Fe values range from **54.9 – 58.6% Fe (average 56.4% Fe)**
  - ❖ Fines mass yield ranges **26 – 43% (average of 33%)**
- Davis Tube Recovery ('DTR') test results on the Fines samples gives excellent results of **61.5 – 63.6% Fe** and significant reduction in deleterious elements
- Pricing of Lump and Fines products underway

The preliminary test work indicates that, based on the samples tested, a high-proportion (approximately 55 – 75%) of the T1 Télimélé mineralisation (that the company has recently announced as an inferred resource of 16.8 million tonnes @ 55.1% Fe) is blocky in nature and only requires a simple on-site crush and screen process to generate a 'lump' product of >60% Fe for transport and sale to the iron ore market. The finer grained 'Fines' product (-6.3mm) shows, as expected, a lower Fe grade product characteristic but the Davis Tube Recovery (DTR) testing suggests that there is a strong possibility that this product can be upgraded to a marketable Fe product using a beneficiation process, likely to be



magnetic separation based on the preliminary DTR results (and possibly a gravity separation process that has yet to be undertaken). Further beneficiation test work on the fines product is planned.

Nemex reiterates that its focus at this stage is to advance the mining of the T1 mineralisation using a simple crush and screen process prior to export, and to investigate, at a later stage, the T1 Fines, the T2 and T3 mineralisation.

**“These very encouraging initial metallurgical test work results indicate that a DSO lump product can be produced from the Boulere resource area, affirming Nemex’s strategy to mine a product that does not require beneficiation prior to export”** said Peter Turner, Nemex’s MD.

**“Pricing forecasts will be incorporated into the Concept Study that will explore early cash-flow by mining the DSO, using either of two nearby Government-owned, multi-user rail lines to deliver the product to port. This study will be completed by the end of March.”**

### **Metallurgical Test Work**

The Maiden Mineral Resource estimate for the Boulere prospect of **258 MT @ 37.3% Fe** using a 30% lower cut-off grade was announced on January 10, 2013. This resource includes **16.8 MT @ 55.1% Fe** of domain ‘T1’ ironstone.

The metallurgical samples, each weighing in excess of 200kgs (**Table 1**), were collected using a PC220 excavator from pits at several sites over the Boulere resource area. **Table 1** shows generally good correspondence between metallurgical sample grade and drill hole (and resource) grade. Although these three T1 metallurgical samples are representative of the T1 unit, additional test work is required on core samples from a greater area of the resource to confirm this initial metallurgical work.



The objective of this test work was to provide preliminary information to determine the characteristics of the T1 unit and to particularly define whether the T1 unit could sustain a direct shipping ore (DSO) operation without the need for expensive, on-site beneficiation. The Company is encouraged from the results of this initial test work and it provides the impetus for further work in collection of core samples across the resource, and to determine if the conclusions presented herein (i.e. that the product is a DSO Fe product) can be extrapolated across the entire, current resource.

All test work was performed at the Bureau Veritas mineral processing laboratory in Canning Vale, Western Australia.

### **Testwork for Lump Product (-35 +6.3mm)**

A lump product comprises irregularly sized lumps of iron ore between 6.3mm and 35mm in diameter that can be charged directly into a blast furnace (avoiding the need to sinter or aggregate iron ore fines). Lump currently trades at a premium to fines.

The conventional test work to determine the quantity of Lump that can be yielded from iron ore mineralisation is the drop tower test, where a large (~100 kg) sample is dropped from a nominal height (in Nemex's case, 5 times from a height of 17m) to determine its ability to break down.

The three, +200kg samples of Nemex were dried at 65°C then screened at 50mm. The oversize blocks were sent away for size-reduction then recombined and homogenised with the rest of the sample. The sample was then control-crushed to 100% passing 35mm before being subjected to the drop tower tests.

The sample size results of pre- and post-drop tower tests (Pre DT & Post DT respectively) are illustrated in **Figure 3**.

The results show that each sample produces a large proportion of lump mass comprising 57 to 74% of the total sample mass post-drop tower testing. Lump product assay results for each sample show **Fe grades >60% Fe in all cases (Table 2)** and – importantly – an increase in Fe grade of 1 to 3% over the drop tower feed grade.

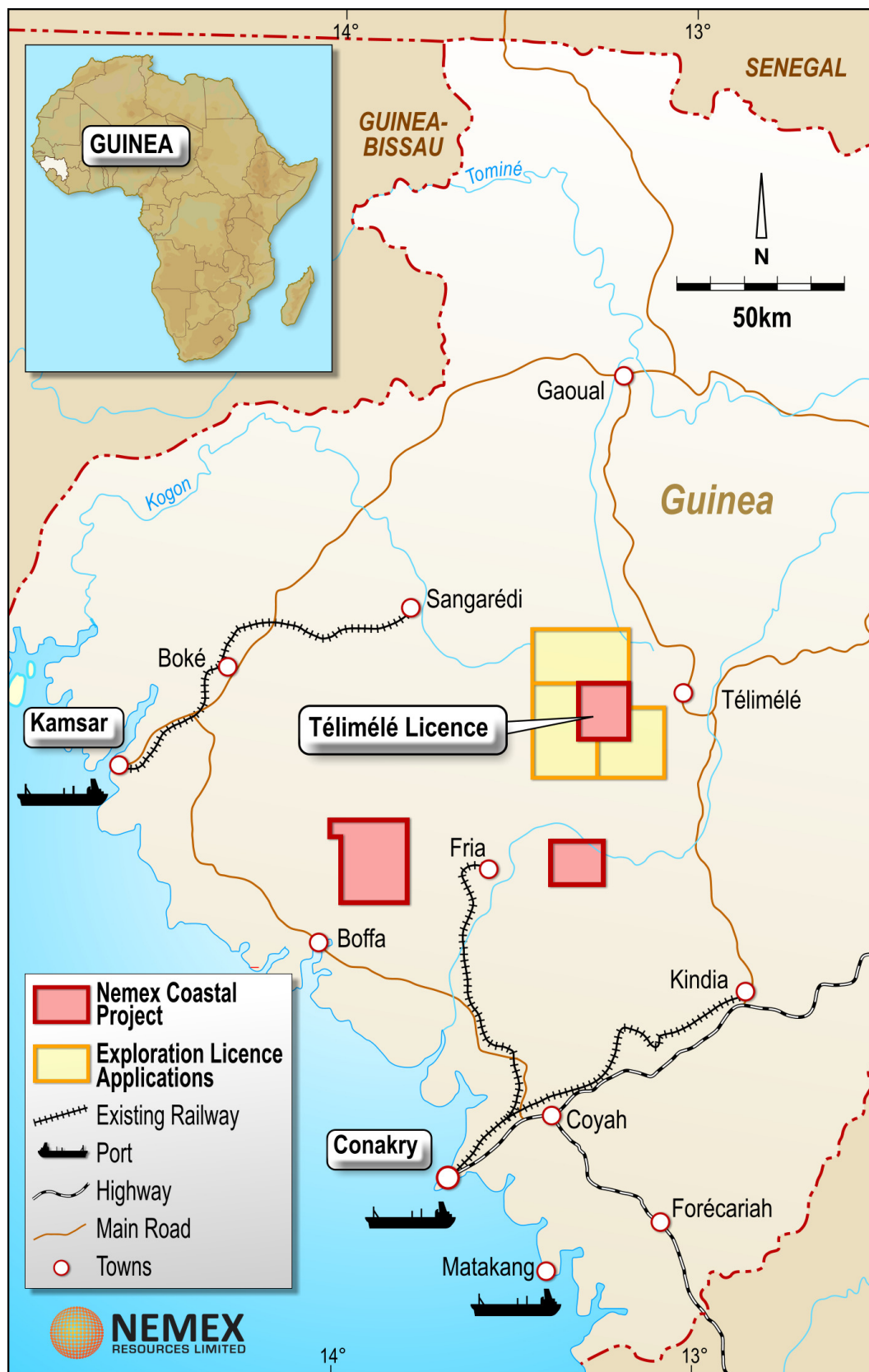


Figure 1. Regional location of Nemex’s Coastal Iron Project (red outlines), including the Téliimélé licence area and exploration licence applications (yellow outlines) in western Guinea.

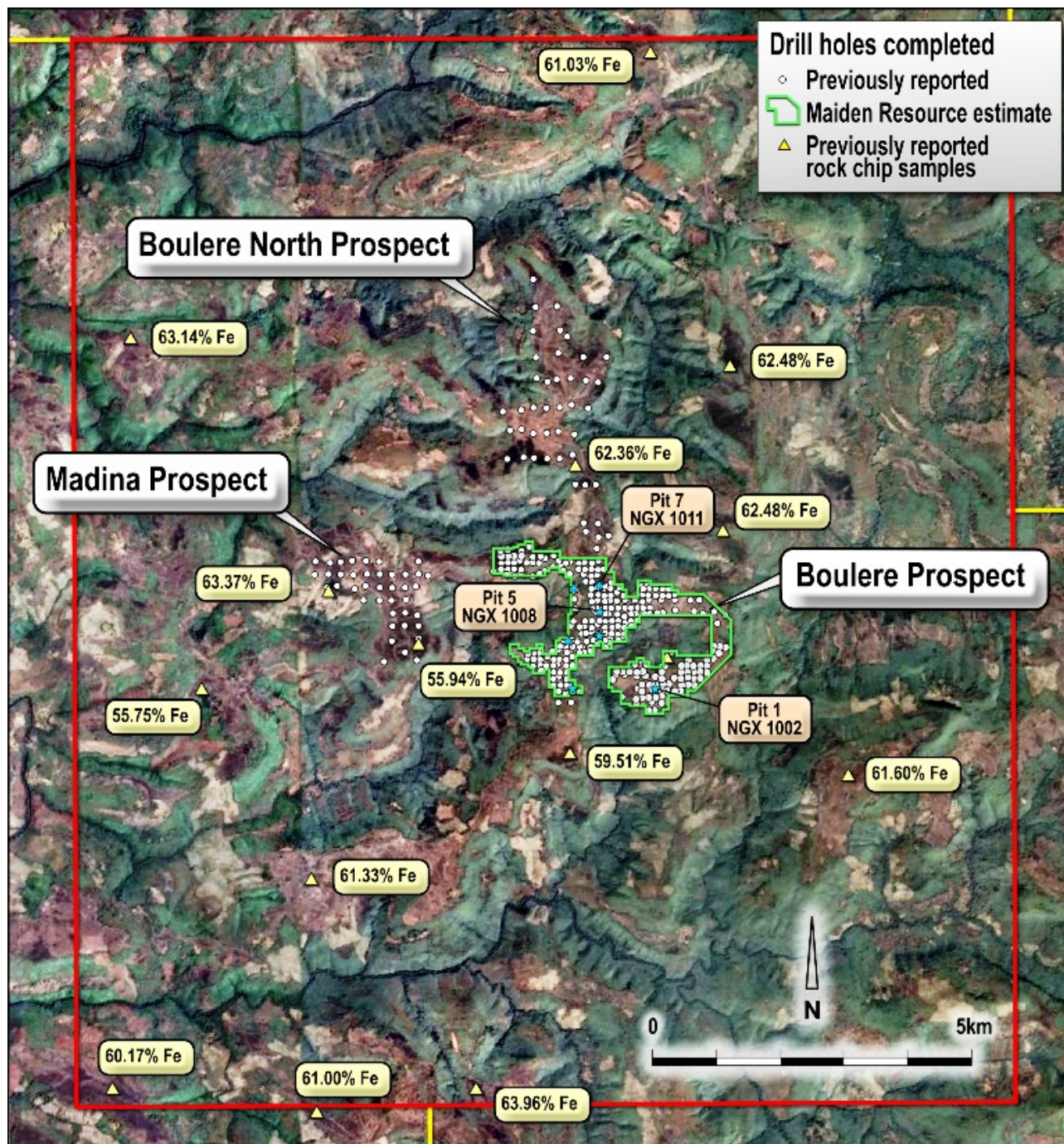
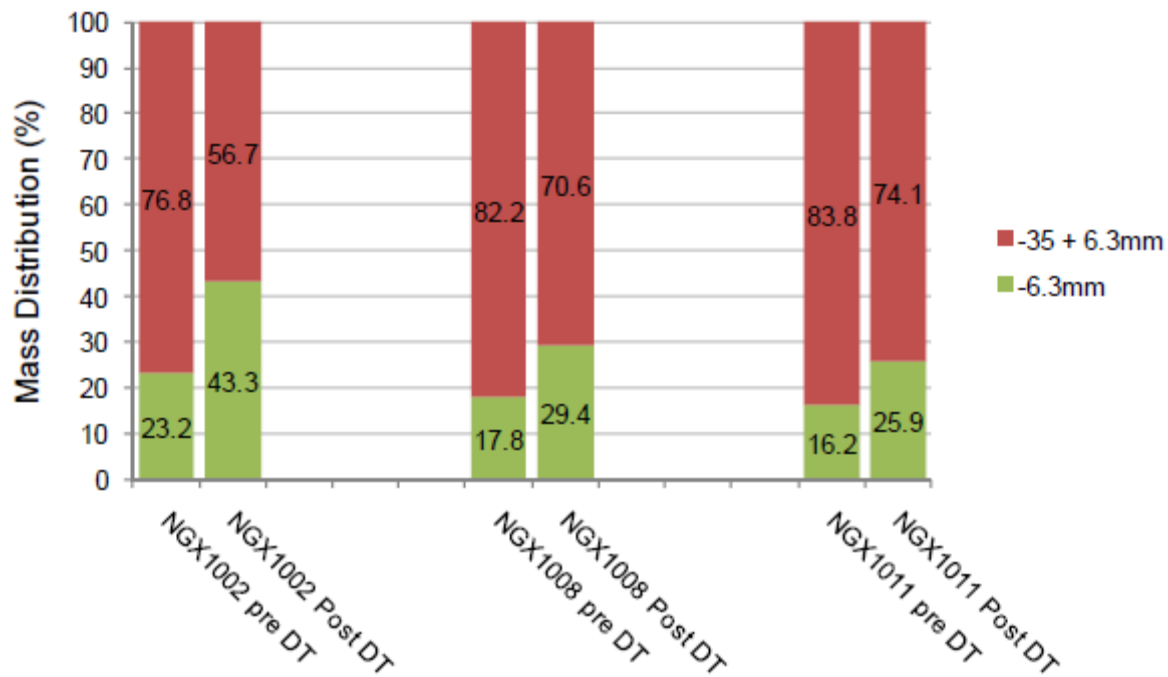


Figure 2. Resource estimation perimeter (green polygon) at the T lim l  Licence and position of the metallurgical pits 1, 5 & 7. Ironstone rock chips samples with Fe values shown as yellow triangles (see announcement 17/08/2011).



**Figure 3. Sample sizing of lump pre- and post-drop tower tests.**

### Fines Product (-6.3mm)

A fines product is the baseline product in the iron ore market. Fines require sintering – the iron ore fines material is mixed with coke and fluxes and with the application of heat is converted into large porous lumps suitable for direct charging into the blast furnace.

The chemistry of the -6.3mm fraction post-drop tower testing shows Fe ranges of 55.6% to 58.6% Fe (see **Table 3**).

### Davis Tube Recovery Results on Fines (-6.3mm)

Each Fines (-6.3mm) sample from the drop tower test was subjected to a Davis Tube Recovery (DTR) test, to determine the possible product upgrade using a magnetic separation process. The results show a significant improvement of the product chemistry of the magnetic concentrate in terms of Fe, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, P and S (**Table 4**).

Fe values of the magnetic concentrate report between **61.5% Fe and 63.6% Fe**, an increase of between 8-13% over the assayed head grades of the Fines samples.



Two of the three samples show >70% mass recovery reporting to the magnetic concentrate. Sample NGX1002 had a lower mass recovery of 22.7%.

Future test work will review the amenability of the Fines samples to gravity separation, with the aim of increased iron recovery. This will include a review of a de-slimes stage for clay removal.

### **Further Metallurgical Test Work**

HQ3 core drilling is planned over the Boulere resource area in H2 2013. The core will provide further metallurgical information over the resource area as the company moves closer to reserve estimation.

Detailed information about Nemex's projects is available at [www.nemexres.com.au](http://www.nemexres.com.au)

#### **For further information contact:**

Peter Turner  
Managing Director  
P: 08 9388 2277

E: [pturner@nemexres.com.au](mailto:pturner@nemexres.com.au)

Robert Gundelach  
Investor Relations  
P: 08 9380 6885

E: [info@nemexres.com.au](mailto:info@nemexres.com.au)

### **About Nemex Resources**

Nemex Resources is a mineral exploration company focused on DSO iron projects in Guinea, West Africa and the Mid-West of Western Australia and gold and base metal opportunities in Côte d'Ivoire, West Africa. Nemex is earning an 85% interest in the Coastal Iron Project in Guinea, West Africa where an extensive ironstone formation has been discovered over a large area and is linked to ports via a multi-user rail line. Current JORC-compliant resources at the project stand at 258 MT @ 37.3% Fe including 16.8 MT @ 55.1% Fe and a <sup>1</sup>Regional Exploration Target of 2-5 BT of 30-40% Fe including 50-100 MT of 50-60% Fe has been given as guidance.

In Côte d'Ivoire, West Africa, Nemex has recently made applications for licences prospective for gold and base metals.

In Western Australia, Nemex has signed an agreement with ASX-listed Golden West Resources Limited ('GWR') whereby GWR can earn up to an 85% interest in Nemex's Woodley Iron Project.



### **<sup>1</sup>Regional Exploration Target**

*Regional Exploration Target is defined as quantity of iron in terms of tonnage and grade that the Company feels is realistic to estimate based on an assessment of a combination of the known occurrence of mineralisation, the geological knowledge of the region, and interpretation of geophysical and remote sensing data over the Téliimélé licence and licence applications. The Regional Exploration Target's tonnage and grade ranges are conceptual in nature and should not be confused with estimates of Mineral Resources. There has been insufficient exploration to define a Mineral Resource and there is no guarantee that the Company will achieve the Exploration Target stated.*

### **Competent Person's Statement**

*The information contained in this release which relates to Exploration Results is based on information compiled by Dr Peter Turner, a Member of the Australian Institute of Geosciences (AIG). Dr Turner is the Managing Director and a full-time member of Nemex Resources Limited. Dr Turner has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration 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'. Dr Turner consents to the inclusion in the press release of the matters based on his information in the form and context in which it appears.*

### **Competent Person's Statement**

*The information contained in this release which relates to Mineral Resources is based on information compiled by Mr Dmitry Pertel, a Member of the Australian Institute of Geosciences (AIG). Mr Pertel is an employee of CSA Global that consults to Nemex Resources Ltd. Mr Pertel has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration 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'. Mr Pertel consents to the inclusion in the press release of the matters based on his information in the form and context in which it appears.*



Appendix – Tables of Metallurgical Test Work performed on samples NGX 1002 (Pit 1), 1008 (Pit 5) & 1011 (Pit 7).

SampleID	Pit ID	Mineralisation Category	Weight (kg)	From (m)	To (m)	Interval (m)	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
*NGX 1002	1	T1	229	2.75	4.7	1.95	58.2	1.2	7.9	0.35
BLRC033	-	T1	-	2.5	5.0	2.5	58.0	1.2	7.4	0.34
*NGX1008	5	T1	255	2.4	4.0	1.6	58.9	2.5	7.0	0.27
BLRC073	-	T1	-	3.0	4.5	1.5	56.5	3.4	8.2	0.18
*NGX1011	7	T1	241	9.3	11.4	2.1	60.1	3.7	4.6	#0.63
BLRC185	-	T1	-	9.0	11.0	2.0	57.9	3.9	5.8	0.55

Table 1. Head grades of metallurgy samples (NGX-) and the corresponding drill hole data (BLRC-) used in the resource model. \* denotes that grades were calculated from head grades of lump and fines. See Figure 2 for the pit positions.

#Sample NGX 1011 has notably high phosphorous levels of 0.61% P. This is unusually high and not representative of the resource grade for P. Values >0.3% P will likely be cut from the resource grade during reserve estimation unless blending opportunities can reduce the overall P levels to <0.3% P.

Sample	Mass (%)	Fe (%)	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	P (%)	S (%)	LOI <sub>1000</sub> (%)
NGX 1002	57	60.2	6.1	1.3	0.37	0.02	4.4
NGX 1008	71	60.6	5.8	2.2	0.25	0.02	3.5
NGX1011	74	60.6	4.3	3.5	0.61	0.005	2.9

Table 2. Lump (-35 +6.3 mm) product chemistry post drop tower test

Sample	Mass (%)	Fe (%)	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	P (%)	S (%)	LOI <sub>1000</sub> (%)
NGX 1002	43	55.6	10.2	1.0	0.32	0.03	7.3
NGX 1008	29	54.9	9.9	3.2	0.31	0.02	6.3
NGX1011	26	58.6	5.4	4.0	0.68	0.01	3.6

Table 3. Fines (-6.3 mm) product chemistry post drop tower test



Sample	Stream	Recovery (Mass %)	Fe (%)	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	P (%)	S (%)
NGX 1002	Mag	22.7	62.3	4.8	0.8	0.24	0.01
	Non-mag	77.3	52.8	12.0	1.7	0.35	0.02
NGX 1008	Mag	71.5	61.5	5.0	1.8	0.20	0.01
	Non-mag	28.5	36.3	22.0	8.3	0.56	0.07
NGX1011	Mag	81.9	63.6	2.9	2.4	0.39	<0.01
	Non-mag	18.1	37.9	15.1	11.6	1.91	0.04

**Table 4. DTR results on Fines (-6.3 mm fraction ground to 100% passing 75 micron) post drop tower test (rounding errors may occur).**