
MBN COMPANY AND OPERATIONAL UPDATE

Perth, AUSTRALIA – 16 February 2015: Following Mirabela Nickel Limited's (*Mirabela* or the *Company*) (ASX: MBN) request for a voluntary suspension on 19 December 2014, the Company is pleased to provide the following company and operational update to shareholders and the market.

Strategic Review

As previously announced to the market, during the latter half of 2014 the management team undertook a strategic review of the Santa Rita mine operations with the aim of completing a new business plan for 2015. The review involved:

- completing a new mineral resource model;
- developing a new mine plan including an optimized pit sequence and new phases design for the next four years of production;
- developing new cut-off grade and stockpile strategies;
- a review of metallurgical recoveries and its key drivers;
- the development of new recovery function by ore type;
- modifying operating conditions for the primary crusher;
- improving process control procedures in the plant;
- changes in tailings dam management and tailings deposition; and
- costs structure and personnel review.

The above changes provide management with more effective operating conditions and flexibility at the mine site. As set out in the Quarterly Activity Report for the period ended 31 December 2014 (*QAR*), the changes also resulted in improved production levels. The Company achieved a 41% increase in nickel produced during fourth quarter 2014 as compared to the third quarter of 2014, and Q4 2014 C1 cash costs at \$4.82 were 47% lower than the Q3 2014 costs (\$9.02). The first month in 2015 also saw sustained production figures with 1,268 tonnes of nickel in concentrate produced against a planned January production of 1,267 tonnes of nickel in concentrate.

2015 Business Plan

New Mine Plan

Mirabela's 2015 mine plan focuses on streamlining operations and reducing production unit costs. The mine plan targets optimising near-term cash flows given the low and volatile nickel price environment. The mine plan has built-in flexibility and can be modified at the appropriate time when nickel prices demonstrate a sustained recovery.

Optimising near-term cash flows focused on improved productivity and lowering mining operating costs, which includes modifying the geometry of the pit to work on 10 metre benches with the ore being mined on 5 metre cuts. The newly optimized mine sequence will simplify mine operations and take advantage of shorter haulage distances to the primary crushing station and waste dump locations. A better understanding of process recoveries by rock type has also led to a review of the cut-off grade and stockpiling strategy used by the mine. The new mine sequencing has been developed as part of the 2015 plan.

Two new mine phases (Pit 6 and Pit 8; see figures 1-3) were designed to take into account the zones of thicker and more continuous ore in the north and south ends of the pit and to reduce stripping the entire strike length of the deposit in one phase. For the short-term, the first phase involves mining in the north pit (Pit 6) where the ore thickness is greater than in the central and the south pits. The first phase will provide feed to the plant for a six month period at an average grade of 0.50% total nickel. The second phase (Pit 8) will provide feed for 3.5 years with the ore quantity for the two phases sufficient for a four year production plan at an average strip ratio of 2.35:1. Starting in the first quarter of 2017, Mirabela will benefit from a low strip ratio given the mine design and it is anticipated that surplus capacity in the mining fleet will be deployed to commence stripping on the west wall in preparation for the subsequent phases of mining.

In addition, pit operations have improved blasting efficiency through a detailed analysis of the front row blasthole locations. Greater blasting efficiency has resulted in improved ore fragmentation and increased productivity at the crusher and at the plant. Better fragmentation has also reduced the loading time at the mine face.

Processing

A new design for run-of-mine ore stockpiles was implemented in Q4 2014 to reduce rehandling costs. The new stockpiles are located directly at the primary crusher and provide some flexibility in terms of blending and ore selectivity for the processing plant feed on a daily basis. The stockpile location also allows for feeding of the crusher directly without the use of trucks, reducing rehandling costs due to decreased haulage requirements.

The primary crusher performance has improved materially given redundant safety electronic protections have been removed without impacting its reliability. Prior to the changes, the crusher capacity averaged approximately 900 tonnes per hour (*tph*). Working with the manufacturer, these redundant protections have been eliminated, significantly reducing the lost time for this equipment. The crusher performance is now reflecting its original design capacity performing in a range of approximately 1,300 tph to 1,500 tph. The improved performance provides additional operating flexibility with the build-up of the crushed ore live stockpile ahead of the processing plant.

The ore body at Santa Rita contains nickel in silicates that cannot be recovered through conventional flotation. Also, it has been determined that the non-recoverable nickel minerals vary by ore type with the different recovery functions integrated in cut-off grade calculations. Reagents and process control procedures during processing are now adjusted to accommodate the variation in mineralogy. The unrecoverable nickel in pyroxenite-hosted ores ranges between 0.07% Ni and 0.10% Ni while in harzburgite-hosted ores it varies between 0.15% Ni to 0.25% Ni. Both grade ranges are heavily subordinated to the presence of magnesium oxide (**MgO**). The harzburgite-hosted ores display a finer texture which may result in a lower metallurgical recovery of the recoverable nickel compared to pyroxenite ores.

New strict process control procedures were implemented in the fourth quarter. They included a reduction to 72% solids in the SAG (semi-autogenous grinding) mill to avoid fines generation; rebalancing the feed mass between the ball mills and equalizing the pull rate from the flotation cells. The main conditioning tank has been repaired and recommissioned allowing for the pulp to be effectively conditioned by the addition of the reagents which significantly improved the nickel sulphides metallurgical recovery.

Testing has been conducted on the suitability of adding Carboxymethyl Cellulose (**CMC**), a depressant commonly used for talc and magnesia (MgO), to the flotation circuit. The test work goals are to improve the concentrate quality, reduce sales penalties due to high MgO content and to improve metallurgical recovery. Promising results have been obtained at a bench and pilot plant scale and CMC is currently being introduced at an industrial scale. Preliminary results in the plant point to improvements in metallurgical recovery and concentrate quality.

Development over time of new SAG mill liners offers the potential of improved physical availability, important cost reductions and increased life of the mill liners.

The maintenance teams at the plant have been reorganized and structured to improve their effectiveness. Maintenance has worked successfully towards increasing physical availability of the plant equipment. This has played a key role in the 8% increase in ore processed during the last quarter of 2014.

Tailings dam

An independent risk assessment on the stability of the tailings dam was completed during the third quarter of 2014 and concluded there was no evidence of instability or breaching in the tailings dam structure. The day-to-day operation of the tailings deposition is managed and supervised by external experts on a full-time rotational basis.

The original estimated rate of rise of the tailings facility would require a 4 metre wall raise every year. Mirabela management has made the decision to implement a new spigots system which will produce a more even distribution of tailings along the walls and ease of control of the tailings distribution and pool location. It is expected that the annual rate of rise will decrease by approximately 35% providing future annual cost savings after initial capital expenditures.

During the second half of 2014 the tailings dam walls were raised from elevation 146 metres to elevation 150 metres with the tailing filter system partially completed. Current activities at the dam include the next raise to elevation 154 metres which will provide sufficient capacity for the total tailings discharge for the 2015 planned production. It is important to note is that the recently built structure will be reinforced by a large broken rock wall (waste from the mine at a very low cost). In addition, the current contractor is being demobilized and new quotations have been obtained with the intent of reducing tailings dam construction cost.

Water

Water management has been improved to recover the maximum quantity of process water. The plant requires approximately 3,000 m³/hour with fresh make up water being pumped from the nearby Rio de Contas River at a rate of 600 m³/hour. The water recycled from the tailing and concentrate thickeners amounts to 1,200-1,300 m³/hour, which is combined to the 1,000 – 1,100 m³/hour being pumped from the tailings storage facility. Mirabela has lodged a new request with the Bahia State Environmental Authority to increase its permitted water pumping capacity from the Rio de Contas River to 1,200 m³/hour. A decision from the Bahia State authorities is expected during the first quarter of 2015.

Cost initiatives & optimisation

Cash costs have been reduced at the mine through the introduction of several important measures including:

- reduction of the workforce by 10% in January 2015;
- reduction in the number of light vehicles from the vehicle fleet at Santa Rita;
- in-sourcing the truck maintenance services which were previously carried out by third party contractors;
- stricter internal control over expenses such as travel, consultancy services, etc. have been implemented;
- hiring of people to replace operators during meals time to maximize mine equipment utilization;
- increasing direct feed of ore from the mine to the crusher;
- reducing diesel oil consumption due to shorter haulage distances and improved vehicle usage measure;
- reducing power consumption through several measures including reductions in air conditioning;
- reducing costs through improved excavation speed as a result of better rock fragmentation at the mine; and
- improved educational campaign for management, supervisors and employees to fully implement and sustain a culture of cost efficiency.

In addition to these measures, management has also mapped other achievable improvements to be implemented between Q1 2015 and Q1 2016. The majority of these improvement measures are expected to have lasting reduction on costs. Some of these additional cost-savings measures include:

- installation of scales and sampling weighing in all mine trucks to ensure a maximum and homogeneous loading rate;
- redesigning the procurement process and organisational structure at the mine site;
- streamlining work flow procedures between the Perth and Brazil site offices; and
- expected sale of obsolete mining equipment.

2015 Guidance (Please refer to the Disclaimer – Forward Looking Statements below)

Based on Mirabela's new production schedule for 2015 the Company is targeting for 2015:

- a planned mining rate of 70,000 tonnes per day (**tpd**);
- a processing rate of 20,000 tpd at an average of 0.50% Ni for the year. A variable cut-off grade and stockpiling strategy has been implemented;
- a total material movement of 25.8 million tonnes;
- an average strip ratio of 2.5:1; and
- a total nickel production of between 16,500 to 18,000 tonnes of nickel in concentrate.

Production is expected to be steady during the year with an average process recovery at 57%. Unit cash costs are expected to average between US\$ 4.50 and US\$ 5.00/lb for the 2015 year. The spread in the average unit cash cost guidance is due to the large number of factors impacting on unit cash cost outcomes, including nickel price, copper price, and the Brazilian Real / US dollar exchange rates.

Capital expenditure for 2015 is forecast at between US\$ 28.8 and US\$ 34.8 million. Major items include: mobile equipment rebuilds, tailing storage facility raise, tailings dam spigot system and sustaining mining expenditure costs. Exploration tenement holding costs and operational optimisation study costs will be charged to Other Expenses in the Statement of Comprehensive Income as incurred. The Company is not anticipating material expenditure on growth activities for 2015.

Offtake

Mirabela advises that it has entered into offtake arrangements for approximately 80% of its 2015 nickel concentrate production with buyer's options to increase the overall quantity to 95% of the production. As part of its concentrate inventory management Mirabela is also in advanced discussions for the sale of its remaining nickel concentrate production for 2015. Negotiations with various parties are also well advanced for the sale and purchase of Santa Rita nickel concentrate after 2015.

Ore Reserves and Mineral Resources

As part of the overall strategic review of the Mirabela mining operations, the Company undertook a complete review of the Santa Rita Ore Reserves and Mineral Resources. The review was possible as there is sufficient and meaningful operational data to support reconciliation with previously used assumptions and parameters. The updated Ore Reserves reduce the projected mine life from 19 years to 14 years because the final phase of the previous ultimate pit and lower-grade mineralized material will not be mined or processed under current assumptions. Specifically, the higher strip ratio and lower-grade material require higher nickel prices to be economically processed and, therefore, have been re-classified as Mineral Resources.

The update of the Ore Reserves (Table 1) and Mineral Resources (Table 2) for the Santa Rita Mine was completed by Roscoe Postle Associates Inc. (**RPA**).

Table 1. Ore Reserves summary – 31 December 2014

Mirabela Nickel Ltd – Santa Rita Mine

Category	Tonnage (000 t)	Grade (Ni %, Total)	Grade (Cu %)	Grade (MgO %)
Proven	4,840	0.58	0.14	31.2
Probable	94,407	0.52	0.15	27.0
Total Proven and Probable	99,247	0.52	0.15	27.2
Waste:	683,802		Strip Ratio: 6.84 (waste/ore)	

Notes:

1. JORC (2012) definitions were followed for Ore Reserves.
2. Ore Reserves are estimated at a pit discard Net Smelter Return (**NSR**) cut-off grade of US\$8.81/tonne.
3. Ore Reserves include mining extraction of 95% and 5% dilution at zero grade.
4. Numbers may not add due to rounding.

Using cash flow modelling, RPA verified that the Ore Reserves have demonstrated economic viability under the assumptions used for cut-off grade calculation.

Table 2. Mineral Resources summary – 31 December 2014

Mirabela Nickel Ltd – Santa Rita Mine

Category	Tonnage (000 t)	Grade (Ni %, Total)	Grade (Cu %)	Grade (MgO %)
Measured	5,111	0.60	0.14	31.3
Indicated	132,414	0.54	0.15	27.5
Sub-total, M&I	137,526	0.54	0.15	27.6
Inferred	1,506	0.53	0.16	27.6

Notes:

1. JORC (2012) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a pit discard NSR cut-off grade of US\$8.81/tonne.
3. A minimum mining width of 5 metres was used for preparation of mineralization wireframes.
4. Average bulk densities were used for each major rock type. Bulk densities varied from 2.76 t/m³ (basement) to 3.26 t/m³ (olivine pyroxenite and pyroxenite units).
5. Mineral Resources are inclusive of Ore Reserves.
6. Mineral Resources that are not Ore Reserves do not have demonstrated economic viability.
7. Numbers may not add due to rounding.

The previously reported Inferred underground Mineral Resource has been excluded from the 2014 year-end Mineral Resource statement. The Management team considers that more detailed scoping and conceptual design activities must be completed prior to including the material in this year's Mineral Resources for the Santa Rita Mine. As part of its mid-year Strategic Business Plan the company will review the potential development options for the material located below the North pit.

Competent Person

The information in this release that relates to Mineral Resources and Ore Reserves was compiled by RPA. RPA were retained by Mirabela to update the Mineral Resource and Ore Reserve estimates for the Santa Rita mine and to prepare an independent Technical Report to disclose the results. RPA and its employees are independent of Mirabela within the meaning of Canadian National Instrument of Disclosure for Mineral Projects NI 43-101 (**NI 43-101**).

The mine design, production schedule and estimate of for Ore Reserves were prepared by Mr Hugo Miranda. Mr Miranda is a Principal Mining Engineer and full-time employee of RPA, and is a registered member of the Chilean Mining Commission. Mr Miranda has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined under the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and as a Qualified Person in accordance with NI 43-101. Mr Miranda takes responsibility for the Ore Reserves estimate and approves and consents to the inclusion in this release of the Ore Reserves in the form and context in which it appears in this release.

The estimate of Mineral Resources was prepared by Mr Reno Pressacco, P. Geo. Mr Pressacco is a Principal Geologist and full-time employee of RPA, and is a member of the Association of Professional Geoscientists of Ontario. Mr Pressacco has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined under the JORC Code and as a Qualified Person in accordance with NI 43-101. Mr Pressacco takes responsibility for the Mineral Resource estimate and approves and consents to the inclusion in this release of the Mineral Resources in the form and context in which it appears in this release.

Disclaimer – Forward Looking Statements

Certain information in this document, including all statements that are not historical facts, constitutes “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian and Australian securities laws. Such forward-looking statements include, but are not limited to, information which reflects management’s expectations regarding Mirabela’s future growth, results of operations (including, without limitation, future production and capital expenditures), performance (both operational and financial) and business prospects (including the timing and development of new deposits and the success of exploration activities) and opportunities.

Forward-looking statements include, but are not limited to, statements with respect to the future price of nickel, the estimation of Ore Reserves and Mineral Resources, the realisation of Ore Reserve estimates, the timing and amount of estimated future production, costs of production, capital expenditures, success of exploration activities, permitting time lines, currency exchange rate fluctuations, requirements for additional capital, government regulation of mining operations, environmental risks, unanticipated reclamation expenses, timing and possible outcome of pending litigation, title disputes or claims and limitations on insurance coverage. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, “believes” or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “might” or “will be taken”, “occur” or “be achieved” or the negative connotation of any of these words. By its nature, forward-looking information is based on assumptions and involves known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance or achievements, or results, to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements.

In making and providing the forward-looking information included in this release, the Company has made numerous assumptions. These assumptions include, among other things: (i) assumptions about the price of nickel and other base metals; (ii) assumptions about operating costs and expenditures; (iii) assumptions about future production and recovery; (iv) that the supply and demand for nickel develops as expected; (v) that there is no unanticipated fluctuation in interest rates and foreign exchange rates; and (vi) that there is no material deterioration in general economic conditions. Although management believes that the assumptions made and the expectations represented by such information are reasonable, there can be no assurance that the forward-looking information will prove to be accurate. By its nature, forward-looking statements is based on assumptions and involves known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance or achievements, or results, to be materially different from future results, performance or achievements expressed or implied by such forward-looking information. Such risks, uncertainties and other factors include among other things the following: (i) decreases in the price of nickel and copper; (ii) the risk that the Company will continue to have negative operating cash flow; (iii) the risk that additional financing will not be obtained as and when required; (iv) material increases in operating costs; (v) adverse fluctuations in foreign exchange rates; (vi) the risk that concentrate produced will not meet certain minimum specifications; (vii) production estimates may not be accurate; (viii) environmental risks and

changes in environmental legislation; and (ix) failure to comply with restrictions and covenants under certain debt facilities.

Although the Company has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in the forward-looking statements, there may be other factors that cause actual results, performances, achievements or events not to be anticipated, estimated or intended. Also, many of the factors are beyond the Company's control. Accordingly, readers and participants should not place undue reliance on forward-looking statements. All forward-looking information disclosed in this release is qualified by this cautionary statement.

Contact Details

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Figure 1. Pit 6 design overview and cross-section

The image on the left is a plan view showing the pit designed to be mined from February to July 2015. The image on the right is an east - west cross-section showing the final planned configuration of Pit 6 in the central portion of the Santa Rita deposit. Also shown is the configuration of the Santa Rita ore body with light blue indicating total nickel grades greater than 0.25 and less than 0.35, light green indicating nickel grades greater than 0.35 and less than 0.50 and yellow indicating nickel grades greater than 0.50.

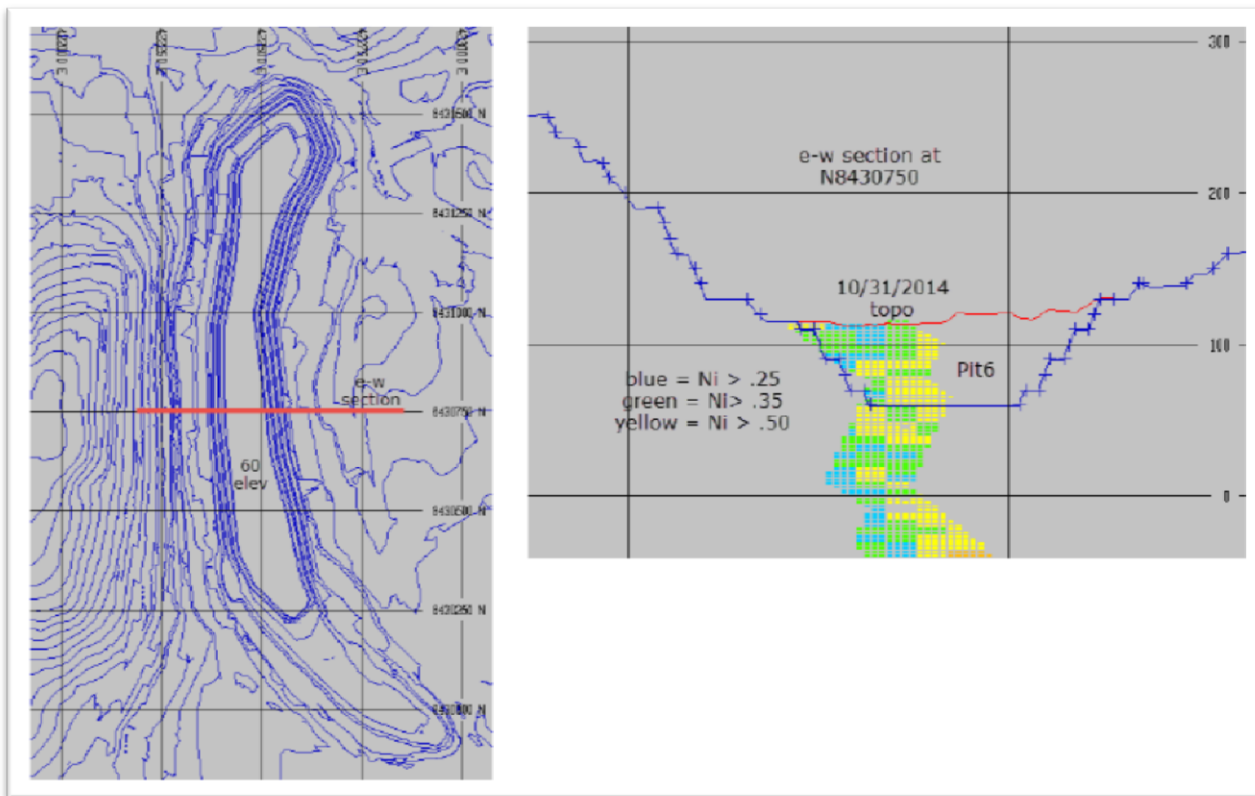


Image produced by Mintec using their proprietary software MineSight.

Figure 2: Phase 8 design overview and cross-section

The image on the left is a plan view of the entire Santa Rita open pit elevations following completion of mining of Pit 6 and Pit 8. The image on the right is an east - west cross-section (looking North) showing the final planned configuration of Pit 6 and Pit 8 in the central portion of the Santa Rita deposit. Also shown is the configuration of the Santa Rita ore body at the northern Pit 6 location with light blue indicating total nickel grades greater than 0.25 and less than 0.35, light green indicating total nickel grades greater than 0.35 and less than 0.50 and yellow indicating total nickel grades greater than 0.50. Under the 2015 mine plan, Pit 8 will be mined over a period of 3.5 years following completion of Pit 6.

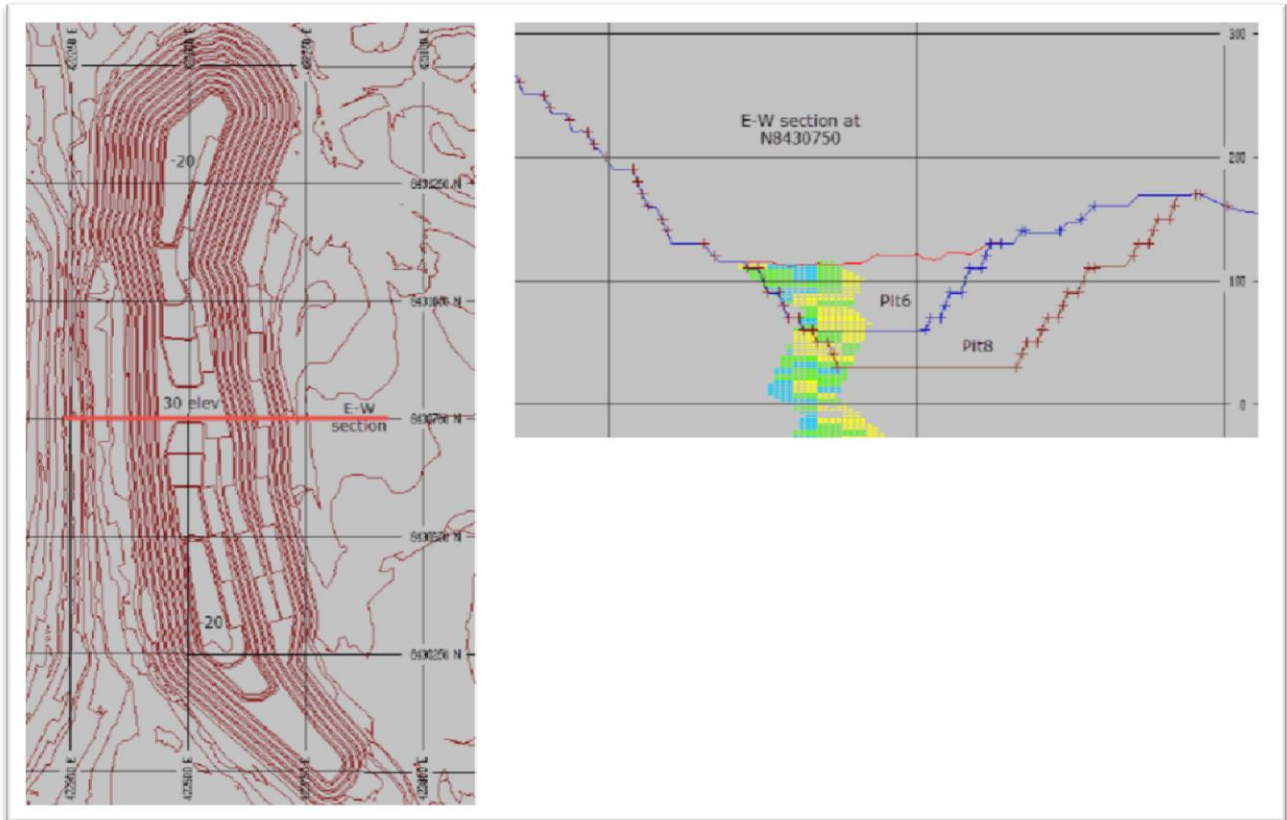


Image produced by Mintec using their proprietary software MineSight.

Figure 3: Additional cross-sections

The image on the left is an east - west cross-section located approximately 350m south of the east - west cross-sections in Figures 1 and 2 and is positioned closer to the southern Pit 8. The east - west cross-section image on the right is located a further 150m south of the image on the left. The final configuration of Pit 6 and Pit 8 are projected onto these two east - west cross-sections looking north.

Also shown is the configuration of the Santa Rita ore body as projected from the southern Pit 8 location onto each of the E-W cross-sections. Light blue indicates total nickel grades greater than 0.25 and less than 0.35, light green indicates total nickel grades greater than 0.35 and less than 0.50 and yellow indicates total nickel grades greater than 0.50.

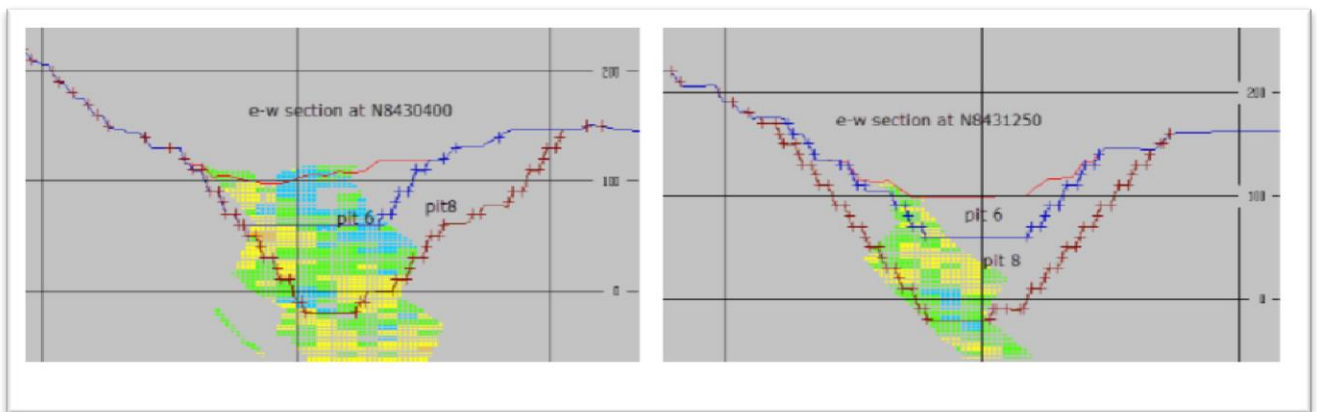


Image produced by Mintec using their proprietary software MineSight.

Appendix 1

Santa Rita Mine – JORC Table 1, Section 1 – Sampling Techniques and Data

Criteria	JORC Code Explanation	MBN Comments
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	<p>The Santa Rita deposit was delineated by diamond core drilling during the exploration phase. Sampling of the drill core was carried out by Mirabela staff.</p> <p>The drill core was systematically sampled in regular 1 m intervals by trained and supervised technicians beginning from the lower contact of the gabbro unit and ending at the bottom of the drill hole. The sample intervals are marked on the core by qualified geologists.</p> <p>ALS Chemex Ltd was used as the principal analytical laboratory company.</p>
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<p>Diamond (DDH), reverse circulation (RC), open hole percussion (OHP) and auger drilling have been completed at the Mirabela Project until 2008.</p> <p>From 2008 until 2012, all holes were drilled with HQ pre-collars and completed with NQ core, with the exception of the laterite drill holes, which were drilled entirely with HQ.</p>
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<p>The host rocks to the mineralization in the Santa Rita Intrusion are competent and typically do not present problems in achieving good core recoveries.</p>
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<p>Geological logging is completed for all holes and representative across the deposit. Logged data is both qualitative and quantitative depending on field being logged. Information collected includes lithology, structure, alteration and mineralization type and estimated abundance.</p> <p>All drill holes and all intervals were logged.</p> <p>The exploration database contains entries for 675 drill holes that aggregate 191,099 m in length. The majority of these drill holes have intersected the mineralized horizons.</p>

Criteria	JORC Code Explanation	MBN Comments
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled. 	<p>Each metre was sampled by taking half of each piece of core for that metre, leaving the half with the orientation line and/or metre marks in the tray, and placing them into the appropriate sample bag.</p> <p>The drill core was systematically sampled for assaying beginning at the lower contact of the gabbro unit until the end of the hole.</p> <p>Sample sizes are considered appropriate with regard to the grain size of the sampled material.</p>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	<p>ALS Chemex Ltd was used as the principal analytical laboratory company. The sample preparation has been completed in Brazil and the analytical laboratories in Perth, Australia, and Vancouver, Canada, assayed the pulps.</p> <p>The ALS Chemex laboratories in Perth and Vancouver are ISO 9001:2000 accredited. In addition, the ALS Chemex Vancouver laboratory is accredited to ISO 17025 by Standards Council of Canada for a number of specific test procedures including fire assay gold by AA, ICP and gravimetric finish, multi-element ICP and AA assays for silver, copper, lead, and zinc.</p> <p>It is RPA's opinion that the analytical methods used, including ICP-AES for nickel, is entirely appropriate. Sufficient quality control data exists to allow thorough review of the analytical performance of assay laboratories. The sampling methods, chain of custody procedures, sample preparation procedures and analytical techniques are all considered appropriate and are compatible with accepted industry standards.</p>
Verification of sampling and assaying	<ul style="list-style-type: none"> • The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data. 	<p>Umpire assay checks were completed by ACME Analytical Laboratory Ltd (ISO 9001:2000 accredited) in Vancouver, Canada, and Ultra Trace Analytical Laboratories (ISO 17025 accredited), in Perth, Australia.</p>
Location of data points	<ul style="list-style-type: none"> • Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control. 	<p>The collar coordinates were initially obtained using a hand-held GPS unit. The collar locations have subsequently been determined using a DGPS, and finally by surveying by TopMin and/or MNL surveyors.</p> <p>The downhole direction and dip changes of the exploration drill holes were monitored by either single-shot surveys or by post-drilling north-seeking gyroscope surveys, or, in various instances,</p>

Criteria	JORC Code Explanation	MBN Comments
		<p>by both of these methods.</p> <p>The UTM Grid Zone 24 south, using Corrego Alegre datum grid system is used at the Santa Rita operations.</p> <p>In December 2007 and January 2008, CBM (Construtora Barbosa Mello) completed a detailed survey over the whole project area from which topographic contours at 1m intervals were produced. The survey was completed using a planar grid coordinate system and was intended specifically for the design and construction phases of the project.</p>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> • <i>Whether sample compositing has been applied.</i> 	<p>Spacing of exploration drill holes are considered sufficient for estimation and reporting of a Mineral Resource.</p> <p>Drill hole locations are at a nominal 25 m x 25 m pattern. The spacing of the drill holes increases at depth.</p> <p>Data spacing and distribution are sufficient to establish the degree of geological and grade continuity.</p> <p>Samples of the exploration drill holes contained within the mineralized wireframes were composited to an equal length of two metres.</p>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<p>The dominant drill direction at Santa Rita is -60° towards azimuth 270°, generally at a high angle to the orientation of the mineralized units. In the south-east extension zone, the drill direction was changed to -60° towards azimuth 180° to account for strike change of the mineralised zone from north-south to more east-west.</p>
<i>Sample security</i>	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<p>Mirabela drilling procedures required samples to be taped closed once taken from the core sampling facility. Samples are then transported directly to the laboratory.</p> <p>Reference material is retained and stored on site, including half-core and photographs generated by diamond drilling, and duplicate pulps and residues of all submitted samples. All pulps are stored at ALS Chemex Ltd's storage facility in Belo Horizonte for 3 months, after which they are stored on site.</p>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<p>Sampling procedures and data integrity were independently reviewed by Coffee Mining as part of the preparation of the previous Mineral Resource estimates.</p>

Santa Rita Mine – JORC Table 1, Section 3 – Estimation and Reporting of Mineral Resources

Criteria	JORC Code Explanation	MBN Comments
<i>Database integrity</i>	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<p>Data used in the Mineral Resource estimate is sourced from exploration and production drill hole and sampling data bases provided by Mirabela staff. The databases are provided in Dassault Systemes Geovia Surpac format.</p> <p>Validation of the data import include checks for overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars. Cross checking of the location of the drill hole collars relative to the digital topographic surface was carried out and corrections made to the collar elevations where appropriate.</p>
<i>Site visits</i>	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<p>A site visit was carried out by Mr. Reno Pressacco, Principal Geologist with RPA on October 1 to 4, 2014 to review the geology, mineralization and structure in the open pit mine and to collect relevant data for the preparation of an updated Mineral Resource estimate.</p>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<p>The detailed stratigraphic succession of the Santa Rita deposit is well understood. Understanding of the presence of post-mineralization faults and their effects upon the distribution of the mineralization is increasing as mining progresses. Understanding of the impact of zones of intense serpentinization upon the plant performance is also improving.</p> <p>A total of 675 drill holes contained within the exploration drill hole database were used to prepare wireframe models of the stratigraphy, faulting and distribution of nickel-copper mineralization.</p> <p>No alternative interpretations of the stratigraphy or distribution of mineralization were considered, as the deposit is well covered by exploration drilling.</p> <p>The lithologic and faulting wireframes were used to guide the preparation of the mineralization wireframes.</p> <p>The mineralization is an example of a magmatic-hosted, stratiform nickel-copper deposit. The controls on the distribution of mineralization for this deposit class are well understood.</p>
<i>Dimensions</i>	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<p>The Santa Rita deposit has an overall strike length of approximately 2,000 m at surface and has been traced by drilling from surface to a vertical depth of approximately 1,300 m. The overall sequence has an arcuate strike with a general north-south orientation that is convex to the west with stratigraphic tops towards the east. In general terms, the units dip moderately eastwards (approximately 60°) at surface, with the average dip becoming shallower (45°-50°) with increasing depth. On a local scale, the orientation of a given segment can vary due to faulting.</p>

Criteria	JORC Code Explanation	MBN Comments
<p><i>Estimation and modelling techniques</i></p>	<ul style="list-style-type: none"> • <i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i> • <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i> • <i>The assumptions made regarding recovery of by-products.</i> • <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i> • <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> • <i>Any assumptions behind modelling of selective mining units.</i> • <i>Any assumptions about correlation between variables.</i> • <i>Description of how the geological interpretation was used to control the resource estimates.</i> • <i>Discussion of basis for using or not using grade cutting or capping.</i> • <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<p>The estimate was generated from a block model constrained by 3D wireframe models of the mineralized material that were constructed using a minimum width of 5 m and using the Dassault Systemes Geovia Surpac v6.6.2 mine modelling software package. A dual cut-off grade strategy was applied which reflects the varying sulphide nickel content of the various rock types present. The nickel, copper, sulphur and MgO grades are interpolated separately for each mineralized domain using both the Ordinary Kriging and Inverse Distance (Power 3) interpolation algorithms using un-capped composited assays. A minimum of 3 and maximum of 8 composited samples were used in any one block estimate, and a maximum of two samples per drill hole were used. The Mineral Resources are reported using the grades estimated by the inverse distance cubed (ID3) method. The wireframe models of the mineralization and excavated materials were constructed by RPA.</p> <p>The results of the updated block model were compared against the previously most current model that was updated in 2012.</p> <p>A credit of 2.5% was applied to account for Co-PGM by-product credits.</p> <p>The block model was constructed using parent block sizes of 10m x 10m x 10m with sub-blocks to 5m x 5m x 5m. The parent block sizes were selected to reflect the anticipated bench heights of the open pit mine.</p> <p>The mineralization wireframes were used to control the estimation of block grades.</p> <p>No capping of assay values was applied, as no evidence of material outlier assays was observed.</p> <p>Validation exercises included comparison of the average block grades and volumes to the informing composites and wireframes, respectively. Validation of the block model with the 2009-2014 production data was also carried out.</p>
<p><i>Moisture</i></p>	<ul style="list-style-type: none"> • <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<p>The densities used for the Mineral Resource estimate were on a dry basis.</p>
<p><i>Cut-off parameters</i></p>	<ul style="list-style-type: none"> • <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<p>For the purposes of wireframe construction, a cut-off grade of 0.33% Ni (Total) was applied for the dunite, harzburgite and olivine pyroxenite units while a cut-off grade of 0.20% Ni (total) was applied for the pyroxenite and websterite units.</p> <p>For the purposes of reporting of the Mineral Resources, the Mineral Resource cut-off is based on a Net Smelter Return (NSR) value calculation, which takes the following factors into consideration:</p>

Criteria	JORC Code Explanation	MBN Comments
		<ul style="list-style-type: none"> Nickel price of US\$11.40/lb Copper price of US\$3.35/lb Metallurgical recoveries Concentrate terms and charges Royalties <p>The NSR value is compared to a pit discard cut-off value of US\$8.81/t, based on processing and G&A costs. This cut-off value is valid within a pit shell or design that accounts for mining costs.</p>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<p>The Santa Rita operation is an active mine that excavates mineralized material using open pit mining methods.</p>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. 	<p>As of December 2014, a total of 28.9 Mdm of ore have been processed through the Santa Rita plant at an average feed grade of 0.48% Ni (total), 0.11% Cu and 0.02% Co. A total of 76,700 tonnes of nickel, 22,800 tonnes of copper and 1,300 tonnes of cobalt in concentrate have been produced as of December 2014.</p> <p>RPA considers that the metallurgical component of the mineralization is well understood.</p>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<p>The Santa Rita deposit is actively being exploited by means of an existing open pit mine with all associated infrastructure. RPA considers that sufficient options are available for storage of waste rock and process residue.</p>
<i>Bulk density</i>	<ul style="list-style-type: none"> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. 	<p>Average bulk densities were used for each major rock type. Bulk densities varied from 2.76 t/m³ (basement) to 3.26 t/m³ (olivine pyroxenite and pyroxenite units). A total of 15,736 bulk densities were determined by direct measurement by Mirabela staff.</p>

Criteria	JORC Code Explanation	MBN Comments
	<ul style="list-style-type: none"> Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	
Classification	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit. 	<p>The mineralized material was classified into the Measured, Indicated, or Inferred Mineral Resource categories on the basis of the search ellipse ranges obtained from the variography study, the observed continuity of the mineralization, the drill hole sample density, and previous production experience with this deposit.</p> <p>RPA believes that all relevant factors have been taken into account for the preparation of the Mineral Resource estimate.</p> <p>It is RPA's opinion that the Santa Rita Mineral Resource estimates appropriately reflect the Competent Person's view of the deposit.</p>
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Mineral Resource estimates. 	No audits or reviews of the current Mineral Resource estimate have been undertaken.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<p>An inverse distance estimation algorithm was used in parallel with the Ordinary Kriged interpolation, with results very similar to the Kriged results.</p> <p>No other estimation method or geostatistical analysis has been performed.</p> <p>The Mineral Resource is a global estimate that is based on exploration drill hole samples that are variably spaced at a nominal pattern of 25m x 25m.</p> <p>Reconciliation with production data leads RPA to consider the Mineral Resource block model as sufficiently accurate to prepare long-range mine plans and life-of-mine schedules.</p>

Santa Rita Mine – JORC Table 1, Section 4 – Estimation and Reporting of Ore Reserves

Criteria	JORC Code Explanation	MBN Comments
<p><i>Mineral Resource estimate for conversion to Ore Reserves</i></p>	<ul style="list-style-type: none"> <i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i> <i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i> 	<ul style="list-style-type: none"> The estimate was generated from a block model constrained by 3D wireframe models of the mineralized material that were constructed using a minimum width of 5 m and using the Dassault Systemes Geovia Surpac v6.6.2 mine modelling software package. A dual cut-off grade strategy was applied which reflects the varying sulphide nickel content of the various rock types present. The nickel, copper, sulphur and MgO grades are interpolated separately for each mineralized domain using both the Ordinary Kriging and Inverse Distance (Power 3) interpolation algorithms using un-capped composited assays. A minimum of 3 and maximum of 8 composited samples were used in any one block estimate, and a maximum of two samples per drill hole were used. The Mineral Resources are reported using the grades estimated by the inverse distance cubed (ID3) method. The wireframe models of the mineralization and excavated materials were constructed by RPA. The results of the updated block model were compared against the previously most current model that was updated in 2012. A credit of 2.5% was applied to account for Co-PGM by-product credits. The block model was constructed using parent block sizes of 10m x 10m x 10m with sub-blocks to 5m x 5m x 5m. The parent block sizes were selected to reflect the anticipated bench heights of the open pit mine. The mineralization wireframes were used to control the estimation of block grades. No capping of assay values was applied, as no evidence of material outlier assays was observed. Reporting of the Mineral Resources used a pit discard NSR value of US\$8.81 using a constraining Whittle shell. Validation exercises included comparison of the average block grades and volumes to the informing composites and wireframes, respectively. Validation of the block model with the 2009-2014 production data was also carried out. The Mineral Resources are inclusive of Mineral Reserves.
<p><i>Site visits</i></p>	<ul style="list-style-type: none"> <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i> <i>If no site visits have been undertaken indicate why this is the case.</i> 	<p>RPA undertook a site visit in January 2015, meeting the geology, and mine planning personnel collecting information on the open pit operation.</p>
<p><i>Study status</i></p>	<ul style="list-style-type: none"> <i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i> <i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to</i> 	<p>Santa Rita is a currently operating mine. Ore Reserve estimation is supported by current operating parameters, including pit slopes and design criteria, process performance, revenue terms, and budget operating costs.</p>

Criteria	JORC Code Explanation	MBN Comments
	<i>convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i>	
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <i>The basis of the cut-off grade(s) or quality parameters applied.</i> 	<p>The Ore Reserve cut-off is based on an Net Smelter Return (NSR) value calculation, which takes the following factors into consideration:</p> <ul style="list-style-type: none"> Nickel price of US\$8.00/lb Copper price of US\$3.00/lb Metallurgical recoveries Concentrate terms and charges Royalties <p>The NSR value is compared to a pit discard cut-off value of US\$8.81/t, based on processing and G&A costs. This cut-off value is valid within a pit shell or design that accounts for mining costs.</p>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i> <i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i> <i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i> <i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i> <i>The mining dilution factors used.</i> <i>The mining recovery factors used.</i> <i>Any minimum mining widths used.</i> <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i> <i>The infrastructure requirements of the selected mining methods.</i> 	<ul style="list-style-type: none"> Ore Reserves are estimated from a pit design, based on a pit optimization generated from pit slopes, NSR values, and operating costs, all based on current operating data. The mining methods considered for Ore Reserves are based on current operating practices. Geotechnical parameters are based on studies and assessments of the current pit walls. Ore Reserves are based on the RPA resource model. A 5% dilution factor (at zero grade) and a 95% mining recovery factor were applied to Ore Reserves. Inferred material was treated as waste for the purposes of pit optimization and Ore Reserve pit design. The infrastructure requirements for mining are already in place.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i> <i>Whether the metallurgical process is well-tested technology or novel in nature.</i> <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i> <i>Any assumptions or allowances made for deleterious elements.</i> <i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as</i> 	<ul style="list-style-type: none"> The Santa Rita processing plant employs conventional flotation circuits and consists of crushing, grinding, flotation, thickening and filtration unit operations to produce a saleable nickel concentrate, whilst flotation tailings are pumped to a storage facility. The plant production capacity is 6.4 Mt per year. The process is industry-standard, and proven via operation on Santa Rita ore. Recovery performance is variable by material type, and dependent on the amount of unrecoverable silicate nickel contained in the total nickel assay. Recovery formulae have been developed to model recovery by material type, and verified against operating results.

Criteria	JORC Code Explanation	MBN Comments
	<p><i>a whole.</i></p> <ul style="list-style-type: none"> For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications? 	<ul style="list-style-type: none"> Recent mill performance for nickel recovery has ranged from 44% to 60%. Copper recovery averages 68%.
Environmental	<ul style="list-style-type: none"> The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported. 	<ul style="list-style-type: none"> Mirabela has environmental impact studies of all water, air, soil, fauna and flora as well as social aspects related to two cities around the site. Mirabela has carried out monthly and quarterly monitoring of these aspects which are reported to the Bahia State Environmental Agency, through RTGA – (Environmental Guarantee Technical Report) for warranty and renewal of licenses. Characterization of all waste generated at site and its disposal has been done as well as the characterization of the mine waste in an annual basis since it is a requirement of the Operations License. The tailings dam is also licensed and has periodical controls that ensure its physical and chemical stability. Mirabela holds seven licenses to operate the mine: <ul style="list-style-type: none"> Mining license to mine nickel at the Santa Rita Farm; License for raw water usage for industrial purposes; Operations License modification (addition of the desliming circuit); Vegetation removal permit; Mining License for the extraction of lateritic nickel; Environmental Authorization for the extraction of 280,000 cubic meters of sand for tailings dam construction purposes; and Environmental Authorization for the extraction of 479,000 m³ of clay for tailings dam construction purposes. Mirabela also complies with 46 annual licensing requirements that are continuously monitored and reported to INEMA, which is the competent Bahia State Environmental Authority.
Infrastructure	<ul style="list-style-type: none"> The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed. 	<ul style="list-style-type: none"> There is an excellent regional infrastructure which provides support for the mining operations. Mirabela owns 2,000 hectares of continuous land around the mining site sufficient for the exploitation of the existing mineral deposits. Power is generated in a nearby hydroelectric power plant located at 20 kms away from the site which provides sufficient power via a 230 KV transmission line. Water – Mirabela has a license for river water intake from the Rio das Contas River which runs alongside the site. Water is also recovered from the tailings dam which works as an additional

Criteria	JORC Code Explanation	MBN Comments
		<p>reservoir. Overall rainfall at the region is 1,200 mm / year.</p> <ul style="list-style-type: none"> • The region has excellent infrastructure and good roads which allows transportation of the bulk concentrates to the Ilheus Port at 120 kms away from site where the nickel concentrates are exported. • The company generates 1,000 direct and indirect jobs in the municipalities of Ipiau and Itagibá located at 7 kms from the mine site with good infrastructure compatible with the operation. • Infrastructure required to support operations is in place, and includes: <ul style="list-style-type: none"> ○ power; ○ water supply; ○ access roads; ○ process plant; ○ maintenance facilities; ○ offices, warehouse, assay lab, and other site buildings; ○ tailings storage facility; and ○ waste dumps.
Costs	<ul style="list-style-type: none"> • <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i> • <i>The methodology used to estimate operating costs.</i> • <i>Allowances made for the content of deleterious elements.</i> • <i>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</i> • <i>The source of exchange rates used in the study.</i> • <i>Derivation of transportation charges.</i> • <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i> • <i>The allowances made for royalties payable, both Government and private.</i> 	<ul style="list-style-type: none"> • Costs are based on recent operating results and budgets. • Concentrate terms include allowances for penalties due to deleterious elements in the concentrate. • Ore reserves are estimated using metal prices of US\$8.00/lb nickel, and US\$3.00/lb copper. • An exchange rate of US\$1.00 = BRL2.20 was used. Since then, Brazilian currency has weakened against the US dollar, effectively reducing costs based in-country. • Costs associated with treatment and transport of concentrates is included in the NSR calculation. • An NSR royalty of 3% and a 1.5% gross revenue royalty are included.
Revenue factors	<ul style="list-style-type: none"> • <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i> • <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i> 	<ul style="list-style-type: none"> • Ore reserves are estimated using metal prices of US\$8.00/lb nickel, and US\$3.00/lb copper. • Costs associated with the treatment and transport of concentrates is included in the NSR calculation.
Market assessment	<ul style="list-style-type: none"> • <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i> • <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i> • <i>Price and volume forecasts and the basis for these forecasts.</i> • <i>For industrial minerals the customer specification, testing and acceptance</i> 	<ul style="list-style-type: none"> • Nickel and copper are LME-traded commodities, with established markets of such size that all production from Santa Rita is virtually guaranteed to be sold, without impacting the commodity prices. • The prices used for resource and reserve estimation are based on forecasts by independent financial institutions.

Criteria	JORC Code Explanation	MBN Comments
	<i>requirements prior to a supply contract.</i>	
<i>Economic</i>	<ul style="list-style-type: none"> <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i> <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i> 	Santa Rita is an operating asset and is not subject to project-type analysis.
<i>Social</i>	<ul style="list-style-type: none"> <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i> 	<ul style="list-style-type: none"> Mirabela owns the land for mining operations, waste dumps, tailings storage facility, roads, buildings, transmission lines, water piping/supply system, etc, thus, there are no specific legal agreements with neighbours. Mirabela has a number of community and social initiatives with the population of Ipiau and Itagibá, the two towns located at proximity to the mine. Very involved and pro-active community relations program where the company has been operating during the last six years. Mirabela is very involved and pro-active in community relations programs during the last 6 years. They include educational and training programs as well as an environmental stewardship program. In 2013 the company invested in the community including a contribution to the revitalisation of a local agricultural park, designed to provide an educational, environmental and enriching amenity for the community. In addition, Mirabela is building capacity in local communities through the Sustainable Actions programme. Since its implementation in 2010, the programme has used various methodologies to improve local farming practices, increase the marketability of local artisans, provide young people with an opportunity to learn a craft and support child sport development.
<i>Other</i>	<ul style="list-style-type: none"> <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i> <i>Any identified material naturally occurring risks.</i> <i>The status of material legal agreements and marketing arrangements.</i> <i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i> 	Risk assessments have been undertaken throughout the Mineral Resource and Ore Reserve estimation phases. No material naturally occurring risks have been identified through the above mentioned risk management processes.
<i>Classification</i>	<ul style="list-style-type: none"> <i>The basis for the classification of the Ore Reserves into varying confidence categories.</i> <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<ul style="list-style-type: none"> The Ore Reserve includes Proved and Probable classifications The economically mineable portion of the Measured Resource has been included in the

Criteria	JORC Code Explanation	MBN Comments
	<ul style="list-style-type: none"> <i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i> 	<p>Proved category.</p> <ul style="list-style-type: none"> The economically mineable portion of the Indicated Resource has been included in the Probable category. The Competent Person believes that the Ore Reserve is an accurate representation of the Santa Rita deposit.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of Ore Reserve estimates.</i> 	<p>No external audits or reviews have been conducted on the current Ore Reserve.</p>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i> <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i> <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> The Ore Reserve estimate was prepared within the guidelines of the 2012 JORC Code. The relative confidence of the estimates contained fall within the definitions of Proved and Probable Reserves. Recent operating results support the modifying factors applied to estimate Ore Reserves. The Ore Reserve has been estimated and peer reviewed by RPA Inc.