

# Nouveau Monde Announces Robust Preliminary Economic Assessment With Pre-Tax NPV of \$403.7 Million

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## And IRR of 31.2 %, Concerning its Tony Claim Block-Matawinie Graphite Property

GATINEAU, Jun 22, 2016) - [Nouveau Monde Mining Enterprises Inc.](#) ("Nouveau Monde") (TSX VENTURE:NOU) (OTC PINK:NMGRF) (FRANKFURT:NM9) is pleased to announce the results of a Preliminary Economic Assessment ("PEA") covering the West Zone of the Tony Claim Block, part of its Matawinie Graphite Property. The PEA was prepared by Norda Stelo Inc. (formerly Roche Ltd., Consulting Group), an experienced and renowned engineering firm. All costs are in Canadian funds with the exception of the graphite sale price which is provided in US dollars.

Eric Desaulniers, President and Chief Executive Officer of Nouveau Monde, stated: "The completion of this first PEA is a significant milestone for Nouveau Monde and demonstrates that the Matawinie Project has the potential of becoming a reliable and long-term supplier of quality natural flake graphite."

Mr. Desaulniers further stated that, "The rapid advancement of our Matawinie Project continues to be highly encouraging with a robust PEA being completed only four months after the release of our mineral resource estimate for the West Zone of the Tony Claim Block. On the back of this PEA, and the recent announcement of our successful metallurgical results, we are excited about promptly moving the project forward by completing a pre-feasibility study that continues to highlight the significant potential of our Matawinie Property."

The following lists the highlights provided by the PEA:

### Project Economics:

- Pre-tax Net Present Value (NPV) of \$403.7 million at an 8% discount rate;
- After-tax NPV of \$237.0 million at an 8% discount rate;
- Pre-tax Internal Rate of Return (IRR) of 31.2%;
- After-tax IRR of 24.7%;
- Life of Mine (LOM) of 25.7 years;
- Mine Pay Back estimated at 2.9 years (Pre Tax);
- Mine Pay Back estimated at 3.5 years (After Tax);
- LOM Revenue of \$2,430.9 million (Life of Mine revenue);
- LOM Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) of \$1,586.7 million;
- Initial Capital Costs (Capex) of \$144.5 million (including contingency of \$22.4 million);
- Operating Expenditures (Opex) of \$32.95 million per year or \$660 per tonne of concentrate;
- Average sales price of graphite concentrate at \$1,492 USD per tonne;
- USD\$/CAD conversion rate of 1.28.

### Operational Highlights:

- Annual average full production of 49,921 tonnes of graphite concentrate;
- 4.48% Cg average grade LOM graphite content contained in the mineralization;
- Graphite milling recovery above 89.5%;
- Finished product/ concentrate purity >97.1% Cg;
- Stripping ratio (LOM) of 0.94:1.

*Cautionary Note: The PEA completed for the Company is preliminary in nature and includes inferred mineral resources, considered too speculative in nature to be categorized as mineral reserves. Mineral resources that are not mineral reserves have not demonstrated economic viability. Additional trenching and/or drilling*

*will be required to convert inferred mineral resources to indicated or measured mineral resources. There is no certainty that the resources development, production, and economic forecasts on which this PEA is based will be realized.*

A technical report detailing the PEA, and completed in accordance with National Instrument (NI) 43-101 guidelines, will be filed and available on SEDAR within 45 days of this release.

## MINERAL RESOURCES

The PEA is based on the mineral resource estimate, completed in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves, released on February 23, 2016 by Nouveau Monde and detailed in a technical report, completed in accordance with National Instrument (NI) 43-101 guidelines, entitled: *Resource Estimate Update, Tony Block, Matawinie Property, Lanaudière Region, Québec*, dated March 30, 2016.

The in-pit resource located on the West Zone represents only a portion of the total mineral resources identified to date on the Tony Block. The latter include 48.6 million tonnes grading 3.97 % graphitic carbon (Cg) of indicated resources and 34.7 million tonnes, grading 4.08 % Cg of inferred resources, using a cut-off grade of 2.5% Cg, spread throughout three areas, the West, the South-East and the South-West Zones (see press release dated February 23, 2016). Both south zones were not included in this PEA since the West Zone showed resources in excess of 25 years, this being the limit imposed for a relevant financial analysis. Maps displaying significant exploration results obtained to date may be downloaded below:

- Property Map: [http://nouveau monde.ca/wp-content/uploads/PR\\_Tony\\_Block\\_20160622r.pdf](http://nouveau monde.ca/wp-content/uploads/PR_Tony_Block_20160622r.pdf)

- Map of the West Zone: [http://nouveau monde.ca/wp-content/uploads/PR\\_West\\_Zone\\_20160622r.pdf](http://nouveau monde.ca/wp-content/uploads/PR_West_Zone_20160622r.pdf)

## MINING

A PEA is a conceptual study of the potential viability of identified mineral resources. It includes inferred mineral resources that are considered too speculative in nature, and as such, cannot be categorized as mineral reserves. The purpose of this study is to inform the reader of the economic potential of the mineral property.

In the following text, graphite is expressed in graphitic carbon percentage (Cg %).

### Mining Highlights

- Only the West Zone of the Tony Claim Block has been considered in the PEA as it provided the best economics compared to the other mineralized zones;
- The in-pit resources represents only a portion of the total mineral resources identified on the Tony Block (see news release published February 23, 2016);
- The open pit optimisation, using GEOVIA's Whittle® software, considers as viable a portion located 45 metres (m) deeper than the arbitrary limit of 435 m at sea level (ASL) used for the mineral resources estimate of the West Zone as reported on February 23, 2016;
- Mining is performed by open pit using a conventional truck and shovel operation;
- The mining production schedule is limited to one shift of 10 hours, 5 days a week so as to reduce environmental and social impact;
- Mining is to be executed under contract services under the supervision of Nouveau Monde;
- The mining operation is set at 75% of the milling capacity for the first year for ramp up;
- Mine life of 25.7 years, with a total in-pit undiluted resource of 16.0 Mt grading 4.38% Cg and 14.8 Mt grading 4.88% Cg of indicated and inferred resources respectively;
- After a 5% dilution and a mining recovery of 95.2%, the West Zone represents a potential life of mine (LOM) graphite content of 1.38 Mt;
- LOM undiluted head grade of 4.62% Cg compared to the undiluted resources estimate of 4.39% Cg reported on February 23, 2016, indicates that grade increases with depth;
- Pre-production is planned over a two year period in order to prepare the infrastructure which includes the mine site, mill and tailing facilities.

The geotechnical parameters presented in Table 1 were used for the West Zone pit optimization performed by GEOVIA's Whittle® software:

Table 1: West Zone open pit preliminary design parameters.

Item	Value	Unit
Bench Height (double benching)	10	m
Berm Width	6	m
Ramp and Haul Road Width	18	m
Bench Face Angle	85	degree
Inter-ramp Slope Angle	55	degree
Overall Slope Angle	50	degree

The study contemplates an average feed rate of 3,290 tonnes per day and a 25.7 year mine life at an average life of mine (LOM) waste to mineralized material strip ratio of 0.94:1. The mineable portion of the mineral resource was developed based on a marginal cut-off grade of 1.96% Cg (low grade) and a breakeven cut-off grade of 2.28% Cg (high grade) using the cost and revenue parameters presented in Table 2.

Table 2: Cost and revenue parameters used for cut-off grade determination

(The following parameters could differ from those used for the financial analysis)

Item	Value	Unit
Processing cost	14.67	C\$/t milled
General & Administrative cost	4.21	C\$/t milled
TMF maintenance cost	0.96	C\$/t milled
Reference mining cost (Waste)	4.52	C\$/t milled
Mining cost (Mineralized materials)	5.84	C\$/t milled
Reclamation cost	1.20	C\$/t milled
Selling price Cg	1,492	USD\$/t of concentrate
Milling recovery	89.5	%
Finished product/concentrate purity	97.1	% Cg
Commodity payment	100	%

A Net Smelter Return (NSR) royalty of 2% applies to the Tony Claim Block. Nouveau Monde can buy back this 2% NSR royalty in a one-time payment of \$2 million during the pre-production years. This royalty was therefore not applied on the cut-off grade calculation as it is assumed that it will be paid prior to the beginning of mine production.

Once a dilution of 5% and a mining recovery of 95.2% are applied on the in-pit resources (based on experience from similar operations), the mineralized material extracted over the course of the mine life totals 16 Mt grading 4.38% Cg in the indicated category and 14.8 Mt grading 4.88% Cg in the inferred category. The West Zone thus represents a potential LOM graphite content of 1.38 Mt. The in-pit mineable resources for the West Zone are summarized in Table 3 below:

Table 3: In-pit life-of-mine resources for the West Zone

Class	In-Pit Resources (Mt)	Grade (% Cg)	Resources Estimate statement (Mt) (February 23, 2016)	Grade (% Cg)
Indicated	16.0	4.38	22.3	4.25
Inferred	14.8	4.88	15.5	4.59

Compared to the resources estimate released on February 23, 2016, the in-pit LOM tonnage represents 72% and 95% of the indicated and the inferred resources, respectively. This difference can be attributed to the pit optimisation process which considers as viable a portion located 45 m deeper than the arbitrary limit of 435

m above sea level (ASL) used for the mineral resources estimate of the West Zone as reported on February 23, 2016. Moreover, the LOM undiluted head grade of 4.62% Cg compared to the undiluted resources estimate of 4.39% Cg seems to indicate that grade increases with depth below the 435 m level.

The mining infrastructures have been conceived with the purpose of integrating environmentally friendly aspects and promoting a low visual impact. The processing plant and waste piles will be located less than 1,000 metres from the mine so as to minimize the project's carbon footprint, to ensure short cycle times and to lower production costs.

The main mining infrastructure considered in this PEA comprises:

- 8.3 km of roads;
- Potential-Acid Generating (PAG) waste rock storage totalling 257,000 m<sup>2</sup>(in case potential acid-generating waste is confirmed through additional testing) ;
- Non-Acid Generating (NAG) waste rock storage covering 233,700 m<sup>2</sup>;
- Storage area covering 221,000 m<sup>2</sup>for overburden and top soil;
- Storage area covering 30,000 m<sup>2</sup> for low- grade stockpile;
- Two sedimentation ponds;
- One office occupying an area of 9,600 m<sup>2</sup>;
- Garage facilities.

A mine site plan conceived for the PEA may be downloaded below:

- Mine Site Plan: [http://nouveaumonde.ca/wp-content/uploads/PR\\_Mine\\_Site\\_Plan\\_20160622.pdf](http://nouveaumonde.ca/wp-content/uploads/PR_Mine_Site_Plan_20160622.pdf)

## PROCESSING & RECOVERY

A proven metallurgical process performed on a composite sample from the West Zone, using flotation only, yielded a concentrate with a purity above 97.1% Cg and a recovery rate over 89.5%. Metallurgical testing supplied the parameters shown below:

- Processing costs;
  - \$331.38/tonne of finished product
  - \$13.64/tonne of material processed
- Average annual processing rate of 1.21Mt;
- Average annual production of 49,921 tonnes of graphite concentrate;
- Average graphite recovery of 89.5%;
- Finished product purity:
  - 100% Global >97.1% Cg, or;
    - 16.1%, +50mesh @ 97.5% Cg;
    - 29.8%, -50+80mesh @ 97.6% Cg;
    - 11.1%, -80+100mesh @ 97.4% Cg;
    - 43.0%, -100mesh @ 96.3% Cg.

The first step of the graphite recovery process for the Matawinie Project consists of crushing the mined material. This will be followed by multiple steps of grinding, attrition scrubbing and flotation, and subsequent filtration, drying and classification. The processing plant design is based on a flow sheet developed at SGS Minerals Services, located in Lakefield, Ontario (Canada), using proven technologies to create a very efficient beneficiation operation. With this process, it is possible to obtain remarkably high graphite quality while obtaining good recoveries. This is especially true for the West Zone mineralization which is the subject of the current PEA.

Although the lock-cycle tests have not yet been performed and the optimization of the various circuits will be part of the next studies only, the results achieved for this PEA are very promising and demonstrate the robustness of the flow sheet. See the Company's press release dated May 9, 2016 for further details on the Matawinie project metallurgical results.

## GRAPHITE SALES PRICE ASSUMPTION

The graphite concentrate sales price used for the PEA was established at 1492\$US/tonne. The selling price was determined using pricing information, averaged during a period of 60 months (from June 2011 to May 2016), obtained from Benchmark Mineral Intelligence (Benchmark) ([www.benchmarkminerals.com](http://www.benchmarkminerals.com)). Benchmark is an independent credible source which compiles international graphite prices for various commercial size fractions and concentrate purities. The West Zone graphite concentrate value was calculated based on the weighted average of each size fraction and purities obtained during the metallurgical testing described in the section above. Table 4 presents graphite concentrate values in USD\$ for various size fractions.

Table 4. Price per size fraction using a 60 month average value obtained through Benchmark Minerals Intelligence.

Size Fraction	Purity (Cg)	60 month Average Price (\$USD/t)	Weight
+50 mesh	96-97	% \$2,308	16.10 %
+80 mesh	96-97	% \$1,526	29.80 %
+100 mesh	96-97	% \$1,358	11.10 %
-100 mesh	96-97	% \$1,198	43.00 %
Weighted Average Price: \$1492 USD			

## DESCRIPTION OF ECONOMIC EVALUATION

According to the PEA, the Tony Claim Block has demonstrated potential economic viability in regards to an open pit graphite mine over the West mineralized Zone.

The capital cost estimate, summarized below, covers the development of the mine, ore processing facilities, and infrastructure required for Nouveau Monde's project. It is based on the application of standard costing methods of achieving a PEA which provides an accuracy of  $\pm 35\%$ . The operating cost covers mining, transportation, processing, tailings and water management, general and administration fees, as well as infrastructure and services.

## CAPITAL & OPERATING COSTS

The capital intensity and cash operating costs are summarized below:

Capital Cost Breakdown (CAD)	
Mining	\$15,632,000
Plant	\$60,130,000
Tailings and water management	\$13,159,000
Infrastructure and Services	\$9,343,000
Total direct costs	\$98,264,000
Indirect costs	\$18,155,000
Owner's costs	\$5,644,000
Contingency (direct & indirect costs)	\$22,389,000
Total Initial Capex	\$144,452,000
Sustaining capital (including contingency)	\$14,422,000
Mine closure and rehabilitation (including contingency)	\$11,789,000
Total Sustaining & Mine Closure	\$26,211,000
Mine development costs	Included in Capex (Mining)
Cash Operating Cost Breakdown (per tonne of finished product) (CAD\$)	
Mining	\$241/tonne
Process, Tailings & Water	\$331/tonne
General & Administration	\$88/tonne
Total	\$660/tonne

## PROJECT LOCATION & INFRASTRUCTURE

The Tony Claim Block is located in the Saint-Michel-des-Saints area, some 120 km north of Montreal, Québec, Canada. The claim block, including the West Zone, is easily accessible using existing logging roads and is close to quality infrastructure such as paved roads and high voltage power lines, both necessary for industrial activities. An abundance of skilled workforce is available in the community of Saint-Michel-des-Saint as well as in surrounding communities, following the recent closing of multiple logging activities.

## QUALITY CONTROL & ASSURANCE

The technical information derived from the Preliminary Economic Assessment present in this news release was prepared by Pierre H. Terreault, P.Eng. MPM, of Norda Stelo Inc., an independent Qualified Person as defined by National Instrument 43-101. The press release was reviewed by Eric Desaulniers, M.Sc., P.Geol., President and CEO of Nouveau Monde, a Qualified Person under National Instrument 43-101 guidelines.

## Cautionary Statements Regarding Forward-Looking Information

This press release contains "forward-looking information" within the meaning of Canadian securities legislation. All information contained herein that is not clearly historical in nature may constitute forward-looking information. Generally, such forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to: (i) volatile stock prices; (ii) the general global markets and economic conditions; (iii) the possibility of write-downs and impairments; (iv) the risk associated with exploration, development and operations of mineral deposits; (v) the risk associated with establishing title to mineral properties and assets; (vi) the risks associated with entering into joint ventures; (vii) fluctuations in commodity prices; (viii) the risks associated with uninsurable risks arising during the course of exploration, development and production; (ix) competition faced by the resulting issuer in securing experienced personnel and financing; \* (x) access to adequate infrastructure to support mining, processing, development and exploration activities; (xi) the risks associated with changes in the mining regulatory regime governing the resulting issuer; (xii) the risks associated with the various environmental regulations the resulting issuer is subject to; (xiii) risks related to regulatory and permitting delays; (xiv) risks related to potential conflicts of interest; (xv) the reliance on key personnel; (xvi) liquidity risks; (xvii) the risk of potential dilution through the issue of common shares; (xviii) the Company does not anticipate declaring dividends in the near term; (xix) the risk of litigation; and (xx) risk management.

Forward-looking information is based on assumptions management believes to be reasonable at the time such statements are made, including but not limited to, continued exploration activities, no material adverse change in metal prices, exploration and development plans to proceed in accordance with plans and such plans to achieve their stated expected outcomes, receipt of required regulatory approvals, and such other assumptions and factors as set out herein. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking information. Such forward-looking information has been provided for the purpose of assisting investors in understanding the Company's business, operations and exploration plans and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking information. Forward-looking information is made as of the date of this press release, and the Company does not undertake to update such forward-looking information except in accordance with applicable securities laws.

Neither the TSX-V nor its Regulation Services Provider (as that term is defined in the policies of the TSX-V) has in any way passed upon the merits of the proposed transaction or approved or disapproved the contents of this press release.

## Contact

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