

# Rio Verde Minerals Releases Positive Preliminary Economic Assessment for its Fosfatar Phosphate Project

01.03.2012 | [Marketwired](#)

TORONTO, ONTARIO -- ([Marketwire](#) - March 1, 2012) - [Rio Verde Minerals Development Corp.](#) (TSX:RVD) ("Rio Verde" or the "Company") is pleased to announce the completion of a Preliminary Economic Assessment ("PEA") for its Fosfatar Phosphate Project ("Fosfatar" or "the Project"), located in Pará State, Brazil. The PEA refers specifically to the Sapucaia Target, one of three phosphate targets located within the Project's land package. The PEA was prepared by Coffey Mining Pty Ltd ("Coffey"), an international consultant with offices in Brazil.

Commenting on the release of the PEA, Rio Verde President & CEO Stephen Keith said, "We are encouraged by the results of the Fosfatar PEA, which confirm the economic potential of the project. This study represents a significant milestone in the development of the project and the Company. It brings us one step closer to making the leap from explorer to producer, growing into a self-funded exploration and development company."

## Highlights of the Fosfatar PEA:

- After-tax Net Present Value ("NPV") of C\$62.9 million, at a 10% discount rate
- After-tax Internal Rate of Return ("IRR") of 113%
- Annual production of 150,000 tonnes of Thermophosphate, with an average grade of 25% P2O5
- Payback period of 1 year
- Life of Mine ("LOM") of 8 years
- Production start-up expected Q4 2012

## Fosfatar Project Base Case Metrics

Resource (tonnes)	1.63 million
% P2O5 Grade	20.3%
Throughput ('000 tonnes)	206k tpa
Strip Ratio	0.36
Life of Mine	8 years
Total Capital Expenditures	C\$10.0 million
Annual Production (full capacity)	150,000 tpa Thermophosphate, 25% P2O5
Product Price	C\$300/tonne
Total Operating Expenditures	C\$131.8/tonne
Foreign Exchange Rate Assumption	BRL\$1.75 : US\$1.00
After-tax Net Present Value (NPV10%)	C\$62.9 million
After-tax Internal Rate of Return (IRR)	113%
Payback Period	1 year

## Resource Estimate

The Sapucaia Target is an aluminous phosphate body measuring 690m N-S by 390m E-W, with ore layer true thickness ranging from 0.60m to 10.15m, averaging 5.42m, and P2O5 grades ranging from 8.22% to 25.48%. In total, the Sapucaia deposit has an NI 43-101 compliant measured and indicated resource of 1.63Mt at 20.3% P2O5.

The Sapucaia Resource Estimate is based on 1,263m of diamond drilling, distributed over 102 holes (46

historical holes) with an average depth of 12m, spaced over a 50m by 50m grid. Historical drill holes were validated by twinning a number of these holes, followed by re-logging, re-sampling and re-assaying.

For additional details, please refer to the October 11, 2011, Independent NI 43-101 Technical Report, "Fosfatar Phosphate Project, Pará, Brazil," filed on [www.sedar.com](http://www.sedar.com).

Mineral resources that are not minerals reserves do not have demonstrated economic viability.

The resources of the satellite Boa Vista Target, located 2.1km away from the Sapucaia Target and with similar mineralization, were not considered in the PEA.

#### Grade Tonnage Report - Sapucaia and Boa Vista Phosphate Targets Block Model: 25m E X 25m N X 1m RL (no cut-off grade applied)

Targets	Resource Category	Tonnes Mt	P205%
<b>Sapucaia</b>			
Measured	1.31	21.81	
Indicated	0.32	14.12	
<b>TOTAL</b>	<b>1.63</b>	<b>20.30</b>	
<b>Boa Vista</b>			
Measured	0.24	12.21	
Indicated	0.06	9.65	
<b>TOTAL</b>	<b>0.29</b>	<b>11.71</b>	

#### Mining Sequence

The PEA considered the mining of the Sapucaia deposit at a throughput of 206k tpa ROM (run-of-mine). The mining sequence was generated using the GEMCOM Surpac and GEMCOM MineSched software as a basis for the open-pit designs. Operational benches were foreseen at a height of 1.0m to 5.0m to perform selective mining of thin mineralized seams. The final pit is to have benches at a height of 5.0m, with a 45° overall slope angle. The target ore is relatively soft, which facilitates both the loading and crushing process. The average strip ratio for the 8-year life of mine was modeled at 0.36.

Year	Total (t)	Waste (t)	Ore (t)	Ore to
Waste Ratio	%P205 of			
<b>ROM</b>				
1	223,531	83,531	139,999	0.60
2	299,348	93,656	205,692	0.46
3	256,317	51,187	205,130	0.25
4	270,380	65,250	205,130	0.32
5	288,942	83,812	205,130	0.41
6	262,541	56,849	205,692	0.28
7	275,687	70,557	205,130	0.34
8	255,851	61,312	194,539	0.32
<b>Total</b>	<b>2,132,599</b>	<b>566,156</b>	<b>1,566,442</b>	<b>0.36</b>
				20.48

#### Capital and Operating Costs

The capital cost for mining, process and infrastructure is estimated at C\$10 million. The capital estimate includes construction capex, sustaining capex, mine equipment, site office, exploration studies, mine closure, elements of a final engineering design and optimization, capital adjustments, and contingencies of 25%.

Cash operating costs average \$131.8/t milled over the LOM period, including \$15.3/t mining, \$96.0/t processing and \$20.5/t regarding G&A costs, selling costs, marketing expenses, commissions and other costs.

#### Fosfatar Process and Product

Rio Verde plans to produce a Thermophosphate fertilizer at its Fosfatar Project. Recently announced agronomic test results showed that the Fosfatar Thermophosphate performs favorably in comparison to

selected commercially available phosphate fertilizers. Please refer to the February 15, 2012 Press Release, "Rio Verde Minerals Announces Positive Agronomic Tests on Thermophosphate Produced from its Sapucaia Target, Fosfatar Phosphate Project" (<http://media3.marketwire.com/r/rioverdefeb15>).

The Fosfatar PEA assumes the use of a calcination-based system of processing, whereby the Project's aluminum phosphate ore is treated in a rotary kiln at temperatures of approximately 800°C. This process changes the crystal structure of the ore, whereby increasing the solubility of its contained phosphate. Through a systematic evaluation, specialized consultants determined that phosphate solubility is maximized at 800°C.

## Price

The average selling price of C\$300/tonne of Thermophosphate (TMP) through 2020 was based on the analysis of an independent consultant, and took into account that the TMP produced by the Fosfatar project will have an average P2O5 grade of 25%, with 70% solubility in neutral ammonium citrate (NAC). Phosphates are priced per point of contained P2O5, and the targeted markets are the North, Northeast and Central regions of Brazil. The current prices per point of P2O5 for the products Monoammonium Phosphate (MAP) and Natural Reactive Phosphate (NRP) were used to determine an estimated price for the TMP. A declining reduction factor-from 30% for the first year to 15% for the last year-was applied to the estimated market price, to recognize the fact that, as a new product, the TMP may take time to reach the full price of its phosphate content. Average logistics costs were included as a reduction in the price.

## Financial Analysis and Sensitivities

The financial analysis for the Base Case, which evaluates an owner's operation, indicates an after-tax NPV at a 10% discount rate of \$62.9 million with an IRR of 113% and a payback period of 1 year.

The tables below outline after-tax NPV sensitivity analysis to sales price and operating costs per tonne:

Sensitivities - Sales Price / Tonne					
	After-Tax NPV in C\$ '000; Base Case: \$300/tonne				
Change %	-30%	-20%	-10%	Base Case	+10%
NPV at 5.00%	34,941	50,978	66,892	82,887	98,914
NPV at 8.00%	28,661	42,510	56,260	70,073	83,915
NPV at 10.00%	25,158	37,773	50,301	62,882	75,491
NPV at 12.00%	22,105	33,633	45,086	56,583	68,105
Sensitivities - Operating cost / Tonne (excluding Marketing/Commissions)					
	After-Tax NPV in C\$ '000; Base Case: \$119.75/tonne				
Change %	+30%	+20%	+10%	Base Case	-10%
NPV at 5.00%	62,163	69,070	75,982	82,887	89,799
NPV at 8.00%	52,006	58,027	64,053	70,073	76,099
NPV at 10.00%	46,323	51,841	57,365	62,882	68,405
NPV at 12.00%	41,357	46,431	51,510	56,583	61,662

## Next Steps

Rio Verde plans to continue advancing the Fosfatar Project towards a final mine design and optimization, which will include detailed engineering design for plant construction. Completion of this final design is expected in Q2 2012. Conditional upon a positive result from this final design, and approval from the Company's board of directors, project construction is expected to begin in the second half of this year, with production commencing in Q4 2012 or Q1 2013.

## Technical Report

An NI 43-101-compliant Technical Report in support of the PEA will be filed on SEDAR at [www.sedar.com](http://www.sedar.com) within 45 days of this news release.

## Qualified Person

The "Qualified Person," as such term is defined in National Instrument 43-101, who has reviewed and

approved the technical information in this new release, is Mr. João Augusto Hilário of Coffey Mining Pty Ltd of Belo Horizonte, Brazil, an independent consultant.

### **About the Fosfatar Phosphate Project**

The Fosfatar Phosphate Project possesses multiple phosphate assets in the North and Northeastern regions of Brazil, and is situated in close proximity to numerous fertilizer consumers and the port city of Belém, in the State of Pará. The three primary targets are the Sapucaia Phosphate Target, the Boa Vista Phosphate Target and the Trauíra Phosphate Target. Fosfatar is comprised of 15 exploration licences, in 10 separate land holdings, over a total area of 47,604.51 hectares, plus 136,608.36 hectares in 16 areas under application for exploration licenses, totaling 184,284.87 hectares of potential area for phosphate deposits in the Pará and Maranhão States.

### **About Rio Verde**

Rio Verde Minerals Development Corp. (TSX:RVD) is a publicly traded company focused on the exploration and development of fertilizer projects in Brazil. The Company's goal is to become the leading Brazilian fertilizer mining and development company by selecting prime assets that are near infrastructure, with known mineralization, in regions without significant social or environmental issues. The Company plans to fast-track the best projects to development to create stakeholder value.

Rio Verde holds one potash project and a portfolio of phosphate projects in Brazil. Potash and phosphate fertilizers have favourable supply and demand dynamics, and Rio Verde has a significant cost advantage by being based in Brazil, a country that imports about 90% of its potash and 50% of its phosphate needs. Rio Verde's near-term primary objective is to focus its potash exploration on establishing a Canadian National Instrument 43-101 resource.

For additional information about Rio Verde, please visit the Company's website at [www.Rvminerals.com](http://www.Rvminerals.com) or review the Company's documents filed at [www.sedar.com](http://www.sedar.com).

### **Forward-Looking Statements**

*This press release contains forward-looking statements. All statements, other than of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future (including, without limitation, statements regarding the estimation of mineral resources, exploration results, potential mineralization, potential mineral resources and mineral reserves) are forward-looking statements. Forward-looking statements are often identifiable by the use of words such as "anticipate", "believe", "plan", "may", "could", "would", "might" or "will", "estimates", "expect", "intend", "budget", "scheduled", "forecasts" and similar expressions or variations (including negative variations) of such words and phrases. Forward-looking statements are subject to a number of risks and uncertainties, many of differ materially from those discussed in the forward-looking statements. Factors that could cause actual results or events to differ materially from current expectations include, among other things, without limitation, failure to establish estimated mineral resources, the possibility that future exploration results will not be consistent with the Company's expectations, the price of potash and phosphate, changes to regulations affecting the Company's activities, including tax and trade laws and policies; delays in obtaining or failures to obtain required regulatory permits and approvals from government authorities; delays in commencing the Company's proposed drilling program, exploration costs varying significantly from estimates; uncertainties relating to the availability and costs of financing needed to complete exploration activities and demonstrate the feasibility of the Company's projects; the success of future exploration and development initiatives; and other risks involved in the mineral exploration and development industry. Any forward-looking statement speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking statement.*

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Die URL für diesen Artikel lautet:

<https://www.rohstoff-welt.de/news/125700-Rio-Verde-Minerals-Releases-Positive-Preliminary-Economic-Assessment-for-its-Fosfatar-Phosphate-Project.html>

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