

# Macusani Yellowcake Announces Positive Preliminary Economic Assessment for Uranium Deposits in Peru

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## Pre-tax IRR of 47.5% and NPV of \$708 M (8% discount rate) at \$65/lb U<sub>3</sub>O<sub>8</sub>

TORONTO, ONTARIO--(Marketwire - Dec 5, 2013) - [Macusani Yellowcake Inc.](#) (the "Company") (TSX VENTURE:YEL)(FRANKFURT:QG1) is pleased to announce the results of a Preliminary Economic Assessment ("PEA") for its uranium properties located on the Macusani Plateau in the Puno District of southeastern Peru. The results from the PEA demonstrate that the Project has the potential to become a large, low-cost uranium mining operation. In addition, there remains excellent exploration potential to further expand the size of the existing Mineral Resource. The PEA was prepared by GBM Minerals Engineering Consultants Limited in conjunction with The Mineral Corporation and Wardell Armstrong International. All figures quoted are in US dollars.

### Highlights of the PEA

- Net Present Value ("NPV") at an 8% discount rate of \$708 M pre-tax / \$417 M post-tax and an Internal Rate of Return ("IRR") of 47.5% pre-tax / 32.4% post-tax using a uranium price of \$65/lb U<sub>3</sub>O<sub>8</sub>, considered as the long-term price by many industry analysts. Capital payback has been estimated at 2.9 years pre-tax / 3.5 years post-tax.
- Cash operating costs during years 1-5 to average \$19.45/lb U<sub>3</sub>O<sub>8</sub> placing it in the lowest quartile in the world using 2012 production figures. Cash operating costs over entire mine life to average \$20.57/lb U<sub>3</sub>O<sub>8</sub>.
- Annual uranium production during operating years 1-5 to average 5.17 M lbs of U<sub>3</sub>O<sub>8</sub>, which would have ranked the mine as the sixth largest uranium mine in 2013. Life of mine ("LOM") annual U<sub>3</sub>O<sub>8</sub> production are estimated to average 4.30 M lbs over a 10 year mine life.
- Initial capital expenditures ("CAPEX") to construct the mine and a 8.5 M tonne per annum ("tpa") process plant have been estimated at \$331 M. Total sustaining capital costs for LOM are estimated at \$228 M.
- Measured and Indicated Mineral Resource of 47.9 M tonnes grading 253 ppm U and containing 14.3 tonnes U<sub>3</sub>O<sub>8</sub> (52.8 M short tons grading 0.598 lbs/ton U<sub>3</sub>O<sub>8</sub> and containing 31.5 M lbs U<sub>3</sub>O<sub>8</sub>). Inferred Mineral Resource of 40.5 M tonnes grading 286 ppm U and containing 13.6 tonnes U<sub>3</sub>O<sub>8</sub> (44.6 M short tons grading 0.674 lbs/ton U<sub>3</sub>O<sub>8</sub> and containing 30.1 M lbs U<sub>3</sub>O<sub>8</sub>).

"The completion of the PEA is a significant milestone for the Company on a number of levels." said Dr. Laurence Stefan, CEO of [Macusani Yellowcake Inc.](#) "Firstly, the estimated production cost of \$20.57/lb demonstrates that we have a Project that has the potential to be one of the lowest cost uranium producers in the world due to a low stripping ratio in the open pit operations, anticipated low acid consumption, and high process plant recoveries expected to be achieved in a short period of time. Secondly, the PEA demonstrates that the Macusani plateau has significant potential to become a major uranium producing district considering that only small areas have been explored to date. And finally, the PEA paves the way for further

development of our Project and the completion of a Pre-Feasibility Study, which we expect to initiate in 2014."

Potentially economic material for the Project will initially come from multiple target deposits including Colibri 2 & 3/Tupuramani, Chilcuno Chico, Quebrada Blanca, Corachapi and Triunfador 1. Conventional open pit and underground mining methods are proposed. The PEA contemplates the construction of a mine and centralized processing facility operating over a 10 year mine life at a throughput of approximately 23 400 tonnes per day. A heap leach would be used to extract uranium into an acidic aqueous leach solution and recovery would be achieved via ion exchange ("IX") with a solvent extraction acid recovery circuit. IX technology is preferred as the simplest and most cost effective option considering the almost pure uranium mineralisation available within the Macusani rhyolites and the absence of any contaminants such as thorium, molybdenum and vanadium.

Table 1. Key production and financial parameters of the PEA

Production Parameters		
Mine life	10 years	
Average annual potentially mineable tonnes	8.5 million tonnes	
Processing recovery rate	88%	
Open pit strip ratio	1 : 0.65	
Average grade	259 ppm U <sub>3</sub> O <sub>8</sub>	
Average annual production (LOM)	4.30 million lbs U <sub>3</sub> O <sub>8</sub>	
Average annual production (Operating Years 1-5)	5.17 million lbs U <sub>3</sub> O <sub>8</sub>	
Financial Parameters		
Uranium price	\$65 / lb U <sub>3</sub> O <sub>8</sub>	
Average cost of production	\$20.57 / lb U <sub>3</sub> O <sub>8</sub>	
Start-up CAPEX	\$331 million	
Sustaining CAPEX	\$228 million	
	Pre-tax	Post-tax
NPV (8% discount rate)	\$708 M	\$417 M
IRR	47.5%	32.4%
Payback period	2.9 years	3.5 years

## Contingencies

The base case financial projection includes a LOM contingency of \$86.2 M. This includes \$61.7 M for the initial capital expenditure ("CAPEX") or approximately 32% of the total initial direct CAPEX.

## Sensitivity Analysis

A sensitivity analysis was performed to test the robustness of the Project against variability in factors such as the price of uranium yellowcake, operating costs, capital costs, grade of the deposit and recovery rates. A chart illustrating key sensitivities and their relationship to the Project NPV and IRR can be found on the Company's website: <http://www.macyel.com/PEA2013/sensitivity-analysis/>

## Mineral Resources

In August 2013 the Company released updated NI 43-101 Mineral Resource estimates showing a 167% increase in the contained U<sub>3</sub>O<sub>8</sub> in Measured and Indicated Mineral Resource categories and a 9% increase in the Inferred Mineral Resources from totals previously reported. The updated Mineral Resource estimate is based on 600 bore holes totalling over 55 000m.

Table 2. Summary of Mineral Resource estimate (75ppm U cut-off)

	Kihitian	Colibri 2 & 3 / Tupuramani	Corachapi	Triunfador 1
	11.8 M lbs U <sub>3</sub> O <sub>8</sub> @ 1.27 lbs U <sub>3</sub> O <sub>8</sub> /ton (8.4 M t @ 635 ppm U <sub>3</sub> O <sub>8</sub> )	14.7 M lbs U <sub>3</sub> O <sub>8</sub> @ 0.48 lbs U <sub>3</sub> O <sub>8</sub> /ton (27.9 M t @ 240 ppm)	5.0 M lbs U <sub>3</sub> O <sub>8</sub> @ 0.39 lbs U <sub>3</sub> O <sub>8</sub> /ton (11.6 M t @ 195 ppm U <sub>3</sub> O <sub>8</sub> )	n/a
Measured & Indicated				

Inferred	17.4 M lbs U <sub>3</sub> O <sub>8</sub> @ 1.23 lbs U <sub>3</sub> O <sub>8</sub> /ton (12.8 M t @ 615 ppm U <sub>3</sub> O <sub>8</sub> )	7.7 M lbs U <sub>3</sub> O <sub>8</sub> @ 0.34 lbs U <sub>3</sub> O <sub>8</sub> /ton (20.4 M t @ 170 ppm U <sub>3</sub> O <sub>8</sub> )	1.9 M lbs U <sub>3</sub> O <sub>8</sub> @ 0.46 lbs U <sub>3</sub> O <sub>8</sub> /ton (3.8 M t @ 230 ppm U <sub>3</sub> O <sub>8</sub> )	3.1 M lbs U <sub>3</sub> O <sub>8</sub> @ 0.82 lbs U <sub>3</sub> O <sub>8</sub> /ton (3.5 M t @ 409 ppm U <sub>3</sub> O <sub>8</sub> )
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\* Conversion of U to U<sub>3</sub>O<sub>8</sub> is 1 : 1.179.

## Cautionary Note

Readers are cautioned that a PEA should not be considered to be a Pre-Feasibility or Feasibility Study. The PEA is preliminary in nature and uses Inferred Mineral Resources which are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. At this stage, the Mineral Resources cannot be converted to Mineral Reserves as the Project has not been demonstrated to be technically and economically viable to a sufficient level. There is no certainty that the results predicted by this PEA will be realized. The Mineral Resource estimates, upon which the PEA is based, could be materially affected by environmental, geotechnical, permitting, legal, title, taxation, socio-political, marketing or other relevant factors.

## Conference Call and Additional Details

A conference call to discuss the results of the PEA news release with President & CEO Dr. Laurence Stefan as well as members of the board and management team is scheduled for December 5<sup>th</sup> at 10 a.m. Eastern Standard Time, 3 p.m. Greenwich Mean Time.

All interested parties can join the conference call by dialing +1-888-231-8191 or +1-647-427-7450. Please dial in 15 minutes prior to the call to secure a line. An archived copy of the conference call will be available from [www.macyel.com](http://www.macyel.com).

A presentation with highlights of the PEA is available from the Company website at: <http://www.macyel.com/PEA2013/presentation/>

The Canadian National Instrument 43-101 ("NI 43-101") technical report summarizing the results of the updated PEA will be filed on SEDAR and the Company's website within 45 days of this press release.

## Qualified Persons

The scientific and technical information contained in this news release relating to preliminary economic assessment was prepared by or under the supervision of, or reviewed and approved by, Mr. Michael Short, B.E., CEng., FIMMM and Dr Thomas Apelt, PhD, CEng., MAusIMM, of GBM Minerals Engineering Consultants Limited, and/or Mr. Mark Mounde, BEng., CEng., MIMMM of Wardell Armstrong International, who are independent technical consultants to the Company and "Qualified Persons" under NI 43-101 Standards of Disclosure for Mineral Projects.

The scientific and technical information contained in this news release relating to the Mineral Resources was prepared under the supervision of, or reviewed and approved by Mr. David Young, B.Sc. (Hons), FGSSA, FSAIMM, FAusIMM, Pr Sci Nat (No 400989/83) of The Mineral Corporation that is an independent technical consultant to the Company and a "Qualified Person" under NI 43-101 Standards of Disclosure for Mineral Projects.

## About Macusani Yellowcake Inc.

[Macusani Yellowcake Inc.](http://www.macyel.com) is a Canadian uranium exploration and development company focussed on the exploration of its properties on the Macusani Plateau in southeastern Peru. The Company owns a 99.5% interest in concessions that cover over 90 000 hectares (900 km<sup>2</sup>) which are situated near significant infrastructure. [Macusani Yellowcake Inc.](http://www.macyel.com) is listed on the TSX Venture Exchange under the symbol 'YEL' and the Frankfurt Exchange under the symbol 'QG1'. The Company has 159 473 613 shares outstanding. For more information please visit [www.macyel.com](http://www.macyel.com).

*Disclaimer: Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. Mineral Resources may not necessarily be converted into Mineral Reserves. In addition, "Inferred Mineral Resources" have a great amount of uncertainty as to their existence, and as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher Mineral Resource category.*

*This news release includes certain forward-looking statements concerning the future performance of [Macusani Yellowcake Inc.](#)'s ("Macusani") business, operations and financial performance and condition, as well as management's objectives, strategies, beliefs and intentions. Forward-looking statements are frequently identified by such words as "may", "will", "plan", "expect", "anticipate", "estimate", "intend" and similar words referring to future events and results. Forward-looking statements are based on the current opinions and expectations of management. Forward-looking statements and forward-looking information include, but are not limited to, statements with respect to estimated production and mine life; the future price of uranium; the estimation and/or realization of Mineral Resources and Mineral Reserves; the timing and amount of estimated future production; costs of production; success of exploration activities; and currency exchange rate fluctuations. Except for statements of historical fact relating to Macusani, certain information contained herein constitutes forward-looking statements. All forward-looking information is inherently uncertain and subject to a variety of assumptions, risks and uncertainties, including the speculative nature of mineral exploration and development, fluctuating commodity prices, competitive risks, the availability of financing, variations in grades or recovery rates, risks relating to international operations, fluctuating currency exchange rates, changes in project parameters, the possibility of project cost overruns or unanticipated costs and expenses, labour disputes and other risks of the mining industry, failure of plant, equipment or processes to operate as anticipated, as described in more detail in the Company's recent securities filings available at [www.sedar.com](http://www.sedar.com). Actual events or results may differ materially from those projected in the forward-looking statements and Macusani cautions against placing undue reliance thereon. Neither Macusani nor its management assume any obligation to revise or update these forward-looking statements.*

*Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.*

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