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# FORM 6-K

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

Report of Foreign Private Issuer

Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934

Date: May 4, 2011  
Commission File Number 001-31528

## IAMGOLD Corporation

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(Translation of registrant's name into English)

401 Bay Street Suite 3200, PO Box 153  
Toronto, Ontario, Canada M5H 2Y4  
Tel: (416) 360-4710

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(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F  Form 40-  
F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_\_

**Note:** Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): \_\_\_\_\_

**Note:** Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes  No

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82- \_\_\_\_\_

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**Description of Exhibit**

<u>Exhibit</u>	<u>Description of Exhibit</u>
99.1	INDEPENDENT TECHNICAL REPORT CONFIRMS IAMGOLD'S NIOBIUM MINE POTENTIAL WITH A 691% INCREASE IN M&I RESOURCES AND A NET ASSET VALUE FOR NIOBEC OF UP TO \$2.0 BILLION

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**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**IAMGOLD CORPORATION**

Date: May 4, 2011

By: /s/ Jeffery A. Snow

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Jeffery A. Snow  
Senior Vice President, General Counsel and Corporate Secretary



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TSX: IMG NYSE: IAG BSE: IAMGOLD

## NEWS RELEASE

### **INDEPENDENT TECHNICAL REPORT CONFIRMS IAMGOLD'S NIOBIUM MINE POTENTIAL WITH A 691% INCREASE IN M&I RESOURCES AND A NET ASSET VALUE FOR NIOBEC OF UP TO \$2.0 BILLION**

#### **RARE EARTH ELEMENT POTENTIAL ALSO IDENTIFIED**

*All amounts are in US dollars, unless otherwise indicated.*

**Toronto, Ontario, May 4, 2011 – IAMGOLD Corporation** ("IAMGOLD" or "the Company") today announced the results of an independently prepared NI 43-101 compliant preliminary economic assessment ("PEA") on the Company's wholly-owned Niobec niobium mine in the province of Quebec, Canada. The PEA shows a significant increase in the measured, indicated and inferred mineral resource estimates at Niobec with the potential for a significant production expansion. The PEA examined the impact of changing the existing underground mine to an alternative bulk mining method. IAMGOLD technical personnel then compared the economics of the open pit scenario and a block caving scenario (the "Study"). The work done on the PEA and the Study will be advanced in a 2011 pre-feasibility study to confirm the potential upside of Niobec.

#### **Highlights**

- A 691% increase in Measured and Indicated mineral resource to 1.93 billion kilograms of contained niobium pentoxide;
- Potential threefold increase in the annual niobium production from current levels to 15 million kilograms per year, with the potential for further production increases;
- A remaining mine life in excess of 40 years at the expanded production rate;
- Based on higher metal prices and lower operating costs, the operating margin is estimated to increase from \$18 per kilogram to \$28 per kilogram of niobium, an increase of over 50%;
- After-tax net asset value ("NAV") in the range of \$1.6 to \$2.0 billion;
- Initiation of exploration and metallurgical testwork to evaluate the potential of an underexplored Rare Earth Element ("REE") zone; and
- Significantly increases employment and economic benefits to the Saguenay region of Quebec.

Steve Letwin, President and CEO of IAMGOLD, said, "Niobec is a unique and highly attractive asset for IAMGOLD, as it is the only North American producer of niobium and one of only three producers globally. Early in 2011, we initiated a strategic plan to unlock the value of Niobec and our other assets for which the market was not attributing fair value. The results of this Study demonstrate the value of Niobec and confirm our

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belief in its long-term potential. The niobium margins estimated in the Study are consistent on a percentage basis with the realized margins from our gold business, making Niobec analogous to over 20 million ounces of gold equivalent resources. <sup>1</sup> Concurrent to the Study we have been exploring opportunities to monetize the value of the asset. We have also identified several high-value rare earth elements that could further enhance the value of Niobec.”

Note 1: This gold equivalent calculation is based on the margin estimated over the life of mine in the PEA divided by the current margin realized on IAMGOLD’s gold production.

Carol Banducci, Executive Vice-President and CFO and lead executive responsible for driving the strategic growth initiative at Niobec, commented, “IAMGOLD’s core business is gold, but the industry dynamics for niobium are highly compelling and Niobec is extremely well positioned to play a vital role as a key supplier. Niobium demand has grown at a 10% compound annual growth rate over the last 10 years and is forecast to increase steadily going forward. A decision to change to alternate bulk mining methods will significantly increase our production capacity and margins.”

#### **STUDY EXAMINES ALTERNATE MINING METHODS**

The Niobec mine has been a significant and consistent contributor of cashflow to IAMGOLD. The global market for niobium continues to grow, fuelled by robust demand for high-quality steel and overall economic growth, particularly in emerging economies. Against this economic backdrop, the Study was undertaken to evaluate alternatives for increasing production and to optimize the value of the operation.

Currently, Niobec is mined underground using longhole open stopes with cemented backfill. The Study evaluated two alternate mining scenarios: a conventional open pit and an underground block caving mining method. Each mining scenario was designed to provide sufficient ore to feed a significantly expanded processing circuit capable of processing 10 million tonnes per year versus the current 2.2 million tonnes per year. The open pit scenario was prepared by independent consultants Roscoe Postle Associates (“RPA”) as part of the PEA, while the block cave scenario was prepared by IAMGOLD technical personnel in consultation with external block cave mine engineering experts.

#### **PEA INDICATES 691% INCREASE IN MEASURED AND INDICATED RESOURCES**

Based on the work by RPA, the mineral resources at Niobec have increased significantly over the year ended 2010. Resource estimates at the end of 2010 were based on current mining methods, and therefore excluded unrecoverable mineralized material left behind in pillars. IAMGOLD has evaluated the potential to access this previously unrecoverable material in a new plan that extends the resources beyond 40 years. However, the PEA only assesses the economic impact of the first 42 years.

The following table summarizes the resource estimates at year end 2010 and the new resource estimate according to the PEA:

	Tonnes (000)	Grade % Nb <sub>2</sub> O <sub>5</sub>	Contained Nb <sub>2</sub> O <sub>5</sub> (million kg)	% Increase in Contained Nb <sub>2</sub> O <sub>5</sub>
<b>IAMGOLD: 1,2,5,6,8</b>				
<b>As of December 31, 2010</b>				
Measured	16,571	0.54	90.0	
Indicated	29,145	0.53	153.8	
Measured and Indicated	45,716	0.53	243.8	
Inferred	59,672	0.53	316.3	
<b>PEA: 1,3,4,7,8</b>				
<b>As of April 1, 2011</b>				
Measured	288,930	0.43	1,242.4	1280%
Indicated	169,180	0.40	685.0	345%
Measured and Indicated	458,110	0.42	1,927.4	691%
Inferred	336,445	0.37	1,240.4	292%

1. CIM definitions were followed for Mineral Resources.
2. The December 31, 2010 Mineral Resources were estimated by IAMGOLD at cut-off grades of 0.45% Nb<sub>2</sub>O<sub>5</sub> for Measured and Indicated Resources, and 0.40% Nb<sub>2</sub>O<sub>5</sub> for Inferred Resources.
3. The PEA Mineral Resources were estimated by RPA and have an effective date of April 1, 2011. They are estimated at a cut-off grade of 0.20% Nb<sub>2</sub>O<sub>5</sub>.
4. The April 1, 2011 Mineral Resources are constrained in a pit shell, to 2,325 metres elevation (725 metres below surface).
5. The December 31, 2010 Mineral Resources extend to 1,036 metres below surface.
6. The December 31, 2010 Mineral Resources are estimated using an average long-term niobium price of US\$25.00 per kg Nb for measured and indicated, and US\$37.50 per kg Nb for Inferred Resources, and a US\$/C\$ exchange rate of 1:1.15 for Measured and Indicated Resources and a US\$/C\$ exchange rate of 1:1.05 for inferred resources.
7. The April 1, 2011 Mineral Resources are estimated using an average long-term niobium price of US\$42.00 per kg Nb and a US\$/C\$ exchange rate of 1:1.05.
8. Totals may not represent the sum of the parts due to rounding.

## REVISED PROJECT ECONOMICS BASED ON ALTERNATE MINING METHODS

The following is a comparison of the economic impact of the open pit scenario and the block caving scenario to the current Life-of-Mine plan.

Mining Method	Block Caving	Open Pit
Tonnes processed (millions) <sup>1</sup>	380	380
Strip ratio	–	3.9
Estimated average annual mill throughput (tonnes)	10,000,000	10,000,000
Estimated average annual production (millions kg Nb)	13	15
Operating margin after expansion (\$/kg Nb) <sup>2</sup>	28	28
Estimated capital expenditure (\$ millions)	1,400	1,400
Initial capital <sup>3</sup>	840	830
Sustaining capital <sup>4</sup>	560	570
Pre-tax NAV (\$ billions) <sup>5</sup>	2.7	3.3
After-tax NAV (\$ billions) <sup>5</sup>	1.6	2.0
After-tax project IRR	21%	24%

1. Although the resources are calculated down to Block 6, the NAV under both scenarios only assesses the economic impact of the first 42 years.
2. Based on a \$45/kg niobium price. The current margin is \$18/kg based on a \$40/kg niobium price.
3. Includes working capital and \$20 million of capital for pre-stripping (in the open-pit scenario).
4. Includes the sustaining capital for the current operation and the sustaining capital required for the expansion.
5. Assumed niobium prices per kilogram are \$40/kg in 2011 and \$45/kg thereafter as estimated by an independent source to RPA.

## **Technical Disclosure**

*All technical disclosure in this news release relating to the Niobec mine has been prepared in accordance with NI 43-101 by: Bernard Salmon, ing. of RPA for Mineral Resources and Graham Clow, P.Eng of RPA for the open pit mining scenario, Pierre Pelletier, P.Eng for the mineral processing and Daniel Vallieres, P.Eng for the block caving scenario, each of whom is a “qualified person” under NI 43-101 with Bernard Salmon and Graham Clow of RPA being independent of IAMGOLD. RPA’s report meets the requirements of a Preliminary Assessment as defined in Canadian NI 43-101 regulations. The economic analysis contained in this report is based, in part, on inferred resources, and is preliminary in nature. Inferred resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the reserves development, production and economic forecasts on which this preliminary assessment is based will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.*

Gord Stothart, Executive Vice-President and COO, said, “As we move into a full pre-feasibility study in the coming months, there are a number of factors to consider. While block caving provides access to the entire ore body, which is completely open at depth, the costs may be somewhat higher. With open pit on the other hand, we have greater flexibility for ore sequencing at lower costs. An open pit method would exploit only the upper sections of the ore body and would allow us the opportunity to return to underground mining once the pit is exhausted. The 2011 pre-feasibility study will help us determine which mining method will provide the best financial returns, while remaining true to the environmental and community sustainability ideals embodied in our Zero Harm approach.”

## **NIOBIUM AND FERRONIObIUM**

Niobium is a metal with unique properties that make it highly valuable in the production of a class of high-quality specialty steel known as High Strength Low Alloy (“HSLA”). Niobec sells its niobium in the form of ferroniobium, an important iron niobium alloy with a niobium content of 65-70%. Ferroniobium is a critical component applied to strengthen and lighten HSLA steel, primarily used in the manufacture of automobiles, pipelines and structural steel products. Niobium is mined from pyrochlore deposits, upgraded into a niobium pentoxide ( $Nb_2O_5$ ) concentrate and then converted into ferroniobium. Steel producers add the ferroniobium to molten steel before casting to give it its desirable physical characteristics.

## **HIGHLY COMPELLING INDUSTRY DYNAMICS**

### **Demand dynamics**

Global demand for niobium has grown at a compound annual growth rate of 10% from 2000 to 2010, driven by strong economic growth in emerging markets (Source: Roskill Consulting Group). The increase has been fuelled by the global increase in steel production, particularly from China, which alone accounted for 25% of niobium consumption in 2010. More importantly, as the demand for higher-quality steel products steadily increases, steel mills increase their usage of niobium to produce steel capable of meeting higher standards and specifications. The usage of niobium in overall steel production has increased from 40 grams per tonne in 2000 to 63 grams per tonne in recent years, and is expected to accelerate in the near and longer term as applications for HSLA steels requiring niobium continue to be developed.

## **Supply dynamics**

Virtually all ferroniobium derived from the mineral pyrochlore currently produced in the world comes from three existing producers. The current capacity of these players plus planned brownfield expansions, including possible expansion to Niobec as detailed in the PEA, are sufficient to meet growing demand forecasts.

Niobium represents a small percentage of the raw material cost of steel making, but adds significant value by improving strength, durability, weight and flexibility. Substitutes, such as ferrovanadium, have inferior physical characteristics and comparatively higher prices with generally lower added-value, mitigating the risk of substitution.

## **NIOBEC HAS AN EXCELLENT OPERATIONAL TRACK RECORD**

Niobec has been in operation for 34 years and over that time has significantly grown its production and mineral resources. In each of the last three years, Niobec has consistently produced over four million kilograms of niobium with margins in the range of \$18 to \$20 per kilogram. In 2010, Niobec produced a total of 4.4 million kilograms of niobium and increased its Proven and Probable Reserves base by 34% to 243.8 million kilograms of contained  $Nb_2O_5$ . While resources prior to the PEA would support a mine life of 40 years at 2.2 million tonnes of ore per year, the PEA now projects a mine life of well over 40 years at three times the current niobium production rate.

## **EXPLORATION AND UPSIDE POTENTIAL**

A five-year drilling program has been initiated to define the resources beyond the current estimated mine life. This program, at an estimated cost of \$8.4 million, includes 75,000 metres of delineation drilling and a further 32,000 metres of resource development drilling. A \$2.5 million surface exploration program is also designed to evaluate the mineralized trend of Niobec and test the footprint of the REE potential on the Company's land position.

The extensions of the Niobec deposit at depth were recently tested. The first deep underground hole of a program of seven holes is now completed. The preliminary assay results were received for the first 640 metres of a 975-metre hole and the average grade was 0.56%  $Nb_2O_5$  (at an estimated true thickness of 275 metres). The grade intersected is very similar to the average grade of the known resources and reserves, confirming that the deposit is still open at depth below the new PEA resource estimate.

## **POSITIVE ECONOMIC IMPACT ON THE SAGUENAY REGION**

Mining has a long tradition in the province of Quebec. It is currently ranked as one of the best mining jurisdictions in the world according to the Fraser Institute. Niobec is located in the Saguenay region, which has a strong industrial base, a skilled workforce and sound infrastructure.

Niobec's current workforce of 395 employees is expected to grow significantly with the implementation of either the open pit or the block caving scenario. Furthermore, during the construction phase of an expansion, additional jobs will be created, stimulating new economic activity for the region.

## **RARE EARTH ELEMENTS**

Beyond the strong economic benefits of a more aggressive approach to niobium production, there is an excellent opportunity for further enhancing the value of Niobec given the known occurrence of at least one large geologic unit hosting rare earth elements ("REEs") within the mining property. The REE zone, one kilometre north of existing infrastructure, was tested through preliminary exploration drilling and metallurgical testing in 1985. The work was shelved at that time because of low REE prices, as the operation chose to focus on niobium. Given the resurgence in REE prices coupled with advancements in processing technology, IAMGOLD re-evaluated the REE work in 2010 and initiated additional mineralogy studies on old core samples. Lab results were encouraging, and the Company completed a four-hole drill program in March 2011 to confirm previous geological information and collect fresh sample material. The assay results are expected to be available later this quarter and the metallurgical results by the end of the third quarter. From the 1985 exploration drilling, the Company identified that the primary REEs within the mining property were: Cerium (Ce), Lanthanum (La), Neodymium (Nd), Praseodymium (Pr), Samarium (Sm), Dysprosium (Dy) and Europium (Eu).

## **Conference Call**

IAMGOLD will hold an investor conference call on Wednesday, May 4, 2011 at 11 a.m. Eastern time to discuss the results of the Preliminary Economic Assessment and to respond to questions from interested parties. A webcast of the conference call will be available through the Company's website - [www.iamgold.com](http://www.iamgold.com).

Conference Call Information: North America Toll-Free: 1-866-551-1530 or 1-212-401-6700 passcode: 9990758#

A replay of this conference call will be available from 6:00 p.m. May 4, 2011 to June 4, 2011. Access this replay by dialling: North America toll-free: 1-866-551-4520 or 1-212-401-6750, passcode: 272579#

## **Forward Looking Statement**

*This news 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, estimation of future production and mine life, and potential margins and value) are forward-looking statements. Forward-looking statements are generally identifiable by use of the words “may”, “will”, “should”, “continue”, “expect”, “anticipate”, “estimate”, “believe”, “intend”, “plan”, “project”, “opportunity”, “potential” or “could” or the negative of these words or other variations on these words or comparable terminology. Forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond the Company’s ability to control or predict, that may cause the actual results of the Company to 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, its failure to meet estimated production levels, the failure to realize expected margins, the failure to realize estimated valuations, changes in world niobium and gold markets and other risks disclosed in IAMGOLD’s most recent Form 40-F/Annual Information Form on file with the United States Securities and Exchange Commission and Canadian provincial securities regulatory authorities at [www.edgar.com](http://www.edgar.com) and [www.sedar.ca](http://www.sedar.ca), respectively. 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.*

## **About IAMGOLD**

IAMGOLD ([www.iamgold.com](http://www.iamgold.com)) is a leading mid-tier gold mining company producing approximately one million ounces annually from 8 gold mines on 3 continents. IAMGOLD is uniquely positioned with a strong financial position and extensive management and operational expertise. To grow from this strong base, IAMGOLD has a pipeline of development and exploration projects and continues to assess accretive acquisition opportunities. IAMGOLD’s growth plans are strategically focused in West Africa, select countries in South America and regions of Canada. IAMGOLD also operates Niobec, a niobium mine in the Canadian province of Quebec.

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

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## **Please note:**

Si vous désirez obtenir la version française de ce communiqué, veuillez consulter le <http://www.iamgold.com/French/Home/default.aspx>.

