

North American Palladium Updates Gold Mineral Reserves and Resources at Vezza Project and Sleeping Giant Mine

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TORONTO, ONTARIO -- (MARKET WIRE) -- 04/27/11 -- North American Palladium Ltd. ("NAP" or the "Company") (TSX: PDL)(NYSE Amex: PAL) today released an updated mineral reserve and mineral resource estimate for its Vezza gold project and Sleeping Giant gold mine, located in the Abitibi gold district in Quebec.

Highlights:

- Vezza's measured and indicated resource increased by 12% to 321,000 contained ounces. Inferred resources total 102,000 ounces.
- Remainder of 2010 drill hole assays from Vezza confirm continuity and grade, including the best result of 8.6 metres grading 14.6 g/t Au in hole V-10-210.
- Vezza dewatering completed and permitting for bulk sampling well underway.
- 2010 drilling at the Sleeping Giant mine increased the contained ounces in the measured and indicated category giving a higher level of confidence in the mineral resource.

"We are pleased to see the Vezza gold project advance in accordance with the budget and timeline, as this supports

our strategy to organically grow our gold division," said William J. Biggar , President and CEO. "Future growth will come from the continued exploration and development of our advanced gold projects in the Abitibi region, where we have a significant land position and an underutilized mill."

"The updated resource estimate at Vezza shows a growing resource," said Michel Bouchard , Vice President, Exploration and Development. "We have completed the dewatering of the underground levels, and are well advanced on the rehabilitation of the underground infrastructure and services to start underground drilling in the coming weeks. The exploration program is progressing according to our plans, and will enable us to make a production decision on the project at the end of this year."

"At Sleeping Giant, the increase in the measured and indicated resource tonnages supports our decision to intensify drilling in the mine in 2011, giving us greater confidence in the ore zones," added Mr. Bouchard. "There is also upside potential at depth - where we will be developing three new mining levels this year."

Veza Gold Project Resource, Exploration & Development Update

Veza is an advanced-stage gold exploration project that is currently being progressed through surface and underground exploration and development towards a production decision, expected by year-end. The plan is to have Veza ore processed at the nearby Sleeping Giant mill which is 85 kilometres away and accessible by provincial highway.

Veza Resource Update

In the last few months of 2010, following the acquisition of the project, NAP completed 57 drill holes from surface for a total of 12,105 metres. Results from only the first 27 holes, which were published earlier this year (see news release dated February 14, 2011 at www.nap.com), formed the basis for the updated resource estimate as of December 31, 2010. The updated resource estimate was prepared by Roscoe Postle Associates Inc. ("RPA"), in accordance with National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101").

CATEGORY	December 31, 2010		April 20, 2010	
	Au Tonnes (t)	Ounces (g/t)	Au Tonnes (t)	Ounces (g/t)
Measured	190,000	6.1	37,100	190,000 6.1 37,100
Indicated	1,524,000	5.8	283,800	1,320,000 5.9 250,400

 Measured & Indicated 1,714,000 5.8 320,900 1,510,000 5.9 287,500

Inferred 633,000 5.0 102,100 754,000 5.0 121,500

 Gain / Loss

CATEGORY	Tonnes		Ounces		% (t)		% (oz)	
	(000)	(oz)	(000)	(oz)	(t)	(oz)	(t)	(oz)
Measured	-	-	-	-	-	-	-	-
Indicated	204,000	33,400	15	12				
Measured & Indicated	204,000	33,400	14	12				
Inferred	-121,000	-19,400	-16	-16				

NOTES FOR UPDATED RESOURCE ESTIMATE:

- (1) This updated mineral resource estimate was prepared as of April 11, 2011 by M. Bernard Salmon, B.Sc., Eng., an independent Qualified Person within the meaning of NI 43-101.
- (2) CIM definitions were followed for the estimation of Mineral Resources.
- (3) Mineral Resources are estimated at a cut-off grade of 3 g/t, using an average long-term gold price of US\$1,200 per ounce and a US\$/C\$ exchange rate of 1:1.
- (4) Minimum mining width of two metres was used.
- (5) Totals may not represent the sum of the parts due to rounding.
- (6) See Cautionary Note to U.S. Investors Concerning Estimates of Measured, Indicated and Inferred Resources.

The update shows a substantial increase in the indicated category of over 200,000 tonnes. The measured and indicated resources' total contained ounces increased by 12% to 321,000 ounces. Roughly 121,000 tonnes were converted from the inferred category to the indicated category.

Veza Exploration Update

Since the end of 2010, the remaining assay results from the 57-hole drill campaign have been received. Assay results from the remaining 30 holes are not included in the updated resource estimate. True widths are estimated to be about 80% of core length.

Highlights include:

Drill hole	From (m)	To (m)	Length (m)	Grade (Au g/t)
V-10-191	183.4	185.5	2.1	11.2
V-10-195	133.2	138.3	5.1	4.6
V-10-201-B	92.1	104.8	12.7	5.0
V-10-203	163.2	164.5	1.3	9.1
V-10-206	112.5	114.4	1.9	5.1
V-10-208-A	98.6	100.3	1.7	7.9
V-10-210	99.1	107.7	8.6	14.6
V-10-213-A	108.7	114.3	5.6	4.0
V-10-217	101.4	104.1	2.7	9.0

This drill campaign confirmed continuity and grade near the surface of the Veza deposit. Hole V-10-210 showed numerous small flakes of visible gold over the length of the intersection.

In 2011, the Company intends to complete an additional 30,000 metres of drilling to test the continuity and grade of the deposit. Most of the campaign will comprise underground infill drilling, and approximately 5,000 metres of extensional drilling from surface on the west part of the main zone.

Veza Development Update

The Company has completed the dewatering of the shaft (741 metres from surface) and the four existing underground drifts. Underground rehabilitation of the drifts, stations and underground services (power, pumping and compressed air) is nearly complete. A 5,000-metre surface drilling program has started and two underground diamond drills are mobilized on site.

A bulk sample of up to 40,000 tonnes is also scheduled for the end of the third quarter of 2011. The Company has approval from the Ministry of Natural Resources and Wildlife for the bulk sample and is completing the permitting process with the Ministry of Sustainable Development, Environment and Parks.

In 2011, NAP will invest \$26 million in underground exploration and development activities at Veza, which should put the Company in a position to make a production decision by year-end. Assuming a positive production decision is made, gold production could begin in the first quarter of 2012 at an expected rate of 39,000 ounces per year over a nine-year mine life.

Sleeping Giant Gold Mine Reserves and Resources

The primary objective of the 2010 exploration drilling program at Sleeping Giant was to define and extend the gold zones within the current mine (including infill drilling to achieve greater certainty of the mine's grades) and at depth on the proposed three new mining levels, as well as to increase the level of confidence in mineral resources. During 2010, 194 drill holes were completed at Sleeping Giant, totaling 38,000 metres. Systematic drilling from underground stations has improved the Company's understanding of several previously-known zones and extended them to greater depth.

The table below sets forth estimated mineral reserves and resources as at December 31, 2010 for the Sleeping Giant mine as calculated in accordance with NI 43-101.

CATEGORY	December 31, 2010			December 31, 2009		
	Tonnes (t)	Grade (g/t)	Gold (oz)	Tonnes (t)	Grade (g/t)	Gold (oz)
RESERVES						
Proven	36,800	7.7	9,100	91,000	8.9	26,000
Probable	154,200	8.6	42,600	96,000	9.8	30,000
Proven & Probable	191,000	8.4	51,700	187,000	9.4	56,200
RESOURCES						
Measured	15,400	5.9	2,900	-	-	-
Indicated	589,500	6.5	123,000	212,900	8.3	57,000

Measured & Indicated 604,900 6.5 125,800 212,900 8.3 57,000

Inferred 146,000 8.2 38,700 243,500 12.9 100,800

NOTES:

- (1) The mineral reserve and mineral resource estimate for the Sleeping Giant mine was prepared by Mr. Vincent Jourdain, P.Eng., Ph.D, Donald Trudel, P.Geo. and Marc-Andre Lavergne P.Eng., qualified persons under NI 43-101.
- (2) Mineral resources are exclusive of mineral reserves.
- (3) Mineral Resources are estimated at varying cut-off grades depending on the type of mining method contemplated.
- (4) This updated mineral resource estimate assumes a long-term gold price of US \$1,100.
- (5) CIM definitions were followed for Mineral Resources. See Cautionary Note to U.S. Investors Concerning Estimates of Measured, Indicated and Inferred Resources.

Compared to the 2009 reserves and resources, the 2010 drilling program nearly tripled the measured and indicated resource tonnage, while at the same time conserving roughly the same reserves at the end of the year following a year of production. Contained ounces were slightly lower in the reserves category while they more than doubled in the measured and indicated resource categories. Tighter drilling conducted during the year reduced the overall grades but increased the confidence level of the estimation, whereas the overall gold content remained roughly the same year over year. More contained ounces were in higher categories at the end of 2010.

In 2011, the Company intends to conduct 30,000 metres of extensional drilling at a cost of approximately \$2.1 million with the objective of extending the mine life further by identifying new resources and converting mineral resources to mineral reserves. A series of deep holes are also planned for 2011 to test the gold zones' extensions up to 300 meters under the three new deeper levels of the mine to plan future development at Sleeping Giant. Results are expected in the fourth quarter of 2011.

Technical Information and Qualified Person

The assay analyses performed during NAP's drill programs are subject to a rigorous quality assurance and quality control (QA/QC) program that conforms to industry best practices as outlined by the CIM and NI 43-101. This includes the use of independent third party laboratories and the use of professionally prepared standards and blanks and analysis of sample duplicates with a second independent laboratory. The Company's exploration team

designed and executed the drilling program under the supervision of Michel Bouchard , Vice President, Exploration and Development for NAP, a Qualified Person as defined by NI 43-101, who has reviewed and approved the content of this news release.

Additional information can be found in NAP's recent Form 40-F/Annual Information Form on file with the US Securities and Exchange Commission and Canadian provincial securities regulatory authorities, available at www.sec.gov and www.sedar.com, respectively. The mineral reserve and mineral resource estimates for each of these properties are available on www.sedar.com and www.nap.com. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

About North American Palladium

NAP is a Canadian precious metals company focused on growing its production of palladium and gold in mining-friendly jurisdictions. The Company's flagship mine, Lac des Iles, is one of the world's two primary palladium producers. NAP also owns and operates the Sleeping Giant gold mine located in the prolific Abitibi region of Quebec. The Company has extensive landholdings adjacent to both its Lac des Iles and Sleeping Giant mines, and a number of exploration projects. NAP trades on the NYSE Amex under the symbol PAL and on the TSX under the symbol PDL.

Cautionary Note to U.S. Investors Concerning Estimates of Measured, Indicated and Inferred Resources

This press release uses the terms "Measured", "Indicated" and "Inferred" Resources. United States investors are advised that while such terms are recognized and required by Canadian regulations, the United States Securities and Exchange Commission does not recognize them. "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 category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or other economic studies. United States investors are cautioned not to assume that all or any part of Measured or Indicated Mineral Resources will ever be converted into Mineral Reserves. United States investors are also cautioned not to assume that all or any part of an Inferred Mineral Resource exists, or is economically or legally mineable.

Cautionary Statement on Forward Looking Information

Certain information included in this press release, including any information as to our future exploration, financial or operating performance and other statements that express management's expectations or estimates of future performance, constitute 'forward-looking statements' within the meaning of the 'safe harbor' provisions of the United States Private Securities Litigation Reform Act of 1995 and Canadian securities laws. The words 'expect',

'believe', 'will', 'intend', 'estimate' and similar expressions identify forward-looking statements. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties, risks and contingencies, including the possibility that drill programs will not yield the expected results, that operations at the Lac des Iles and Sleeping Giant mines may not proceed as planned, that Vezza and other properties can be successfully developed, and that metal prices, foreign exchange assumptions and operating costs may differ from management's expectations. The Company cautions the reader that such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual financial results, performance or achievements of North American Palladium to be materially different from the Company's estimated future results, performance or achievements expressed or implied by those forward-looking statements and that the forward-looking statements are not guarantees of future performance. These statements are also based on certain factors and assumptions. For more details on these estimates, risks, assumptions and factors, see the Company's most recent Form 40-F/Annual Information Form on file with the U.S. Securities and Exchange Commission and Canadian provincial securities regulatory authorities. The Company disclaims any obligation to update or revise any forward-looking statements, whether as a result of new information, events or otherwise, except as expressly required by law. Readers are cautioned not to put undue reliance on these forward-looking statements.

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