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**Offset Zone, Lac des Iles Mine  
SCOPING STUDY RESULTS**

August 17, 2010

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# Forward Looking Statements



Certain information included in this presentation, 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, factors, 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 metal prices, foreign exchange assumptions and operating costs may differ from management's expectations. These factors 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. The forward-looking statements are not guarantees of future performance. For more details on these estimates, risks, factors, and assumptions, 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 cautions the reader that the Offset Zone preliminary economic assessment ("PEA") has been prepared by third parties and is based on a number of assumptions, any one of which, if incorrect, could materially change the projected outcome discussed in this presentation. In addition, there can be no assurance that the Company's Lac des Iles or Sleeping Giant mines will operate as anticipated or that other properties can be successfully developed. Management expectations for development of the Offset Zone may change based on the results of the PEA. 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. Additionally, the forward-looking statements contained herein are presented solely for the purpose of conveying management's expectations or estimates of future performance and may not be appropriate for other purposes.

**All dollar amounts in Canadian currency unless otherwise stated.**

# Executive Summary



## **Long life, low cost palladium production**

- Commercial production from shaft targeted for Q3 2012
- Production of +250,000 oz/yr after commercial production
- LOM cash costs of US\$132/oz



## **Robust project economics\***

- 16.7% IRR (pre-tax)
- 16.0% IRR (post-tax)
- \$256 million undiscounted cash flow (pre-tax)
- \$138 million NPV (5%, pre-tax)
- 46 month payback period



## **Significant exploration upside**

- Continued exploration can further increase production and extend mine life
- Potential to increase resources at Offset Zone, which is open in all directions
- Potential from parallel Cowboy & Outlaw zones



## **Low execution risk**

- +17 years of mining & milling experience at LDI
- Established infrastructure with fully permitted, under utilized facilities
- Brownfield expansion vs. greenfield project

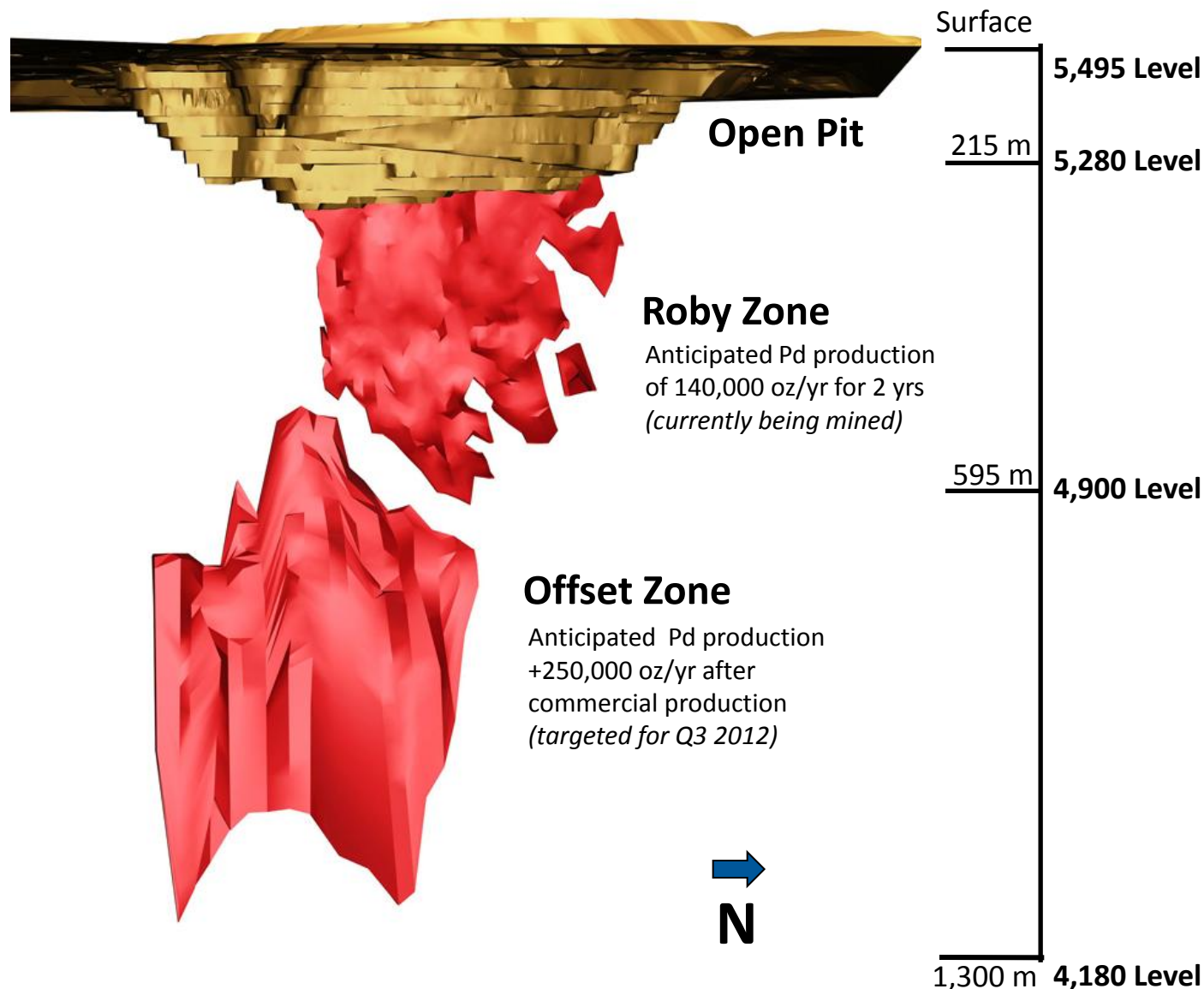


## **Well funded to pursue development**

- \$150 million in cash & no long-term debt

\* Base case assuming palladium price of US\$450/oz and a Canadian to U.S. dollar exchange rate of 1.05.

# LDI: Underground Ore Body





# LDI: A World Class Mine



- One of only two primary palladium mines in the world
- Located 85 km northwest of Thunder Bay, Ontario
- Open pit commenced operations in 1993
- Underground mining from the Roby Zone began in 2006
- \$500M invested in infrastructure and mineral rights

# Offset Zone Economics

- Scoping Study estimated cost accuracy: +/- 15%
- Economics robust at current metal prices:

Palladium Price US\$/oz	IRR (%) (pre-tax)	NPV at 0% discount (C\$ Millions)	NPV at 5% discount (C\$ Millions)
\$400	11.7	176	77
<b>\$450</b>	<b>16.7</b>	<b>256</b>	<b>138</b>
\$500	21.6	337	198

## Significant exploration potential:

- +2 yrs. to mine life (at similar grades , base case) yields:
  - 19.4% IRR & \$225M NPV at a 5% discount rate

## Base Case Assumptions:

Palladium Price:  
US\$450/oz

Exchange Rate:  
C\$1.05: US\$1.00

Byproduct Metal Prices  
(US\$): \$1,533 /oz Pt,  
\$1,200/oz Au, \$3.00/lb  
Cu, \$8.80/lb Ni

LOM: 8 yrs.

Payback Period:  
46 months

# Palladium Prices Forecasted to Rise



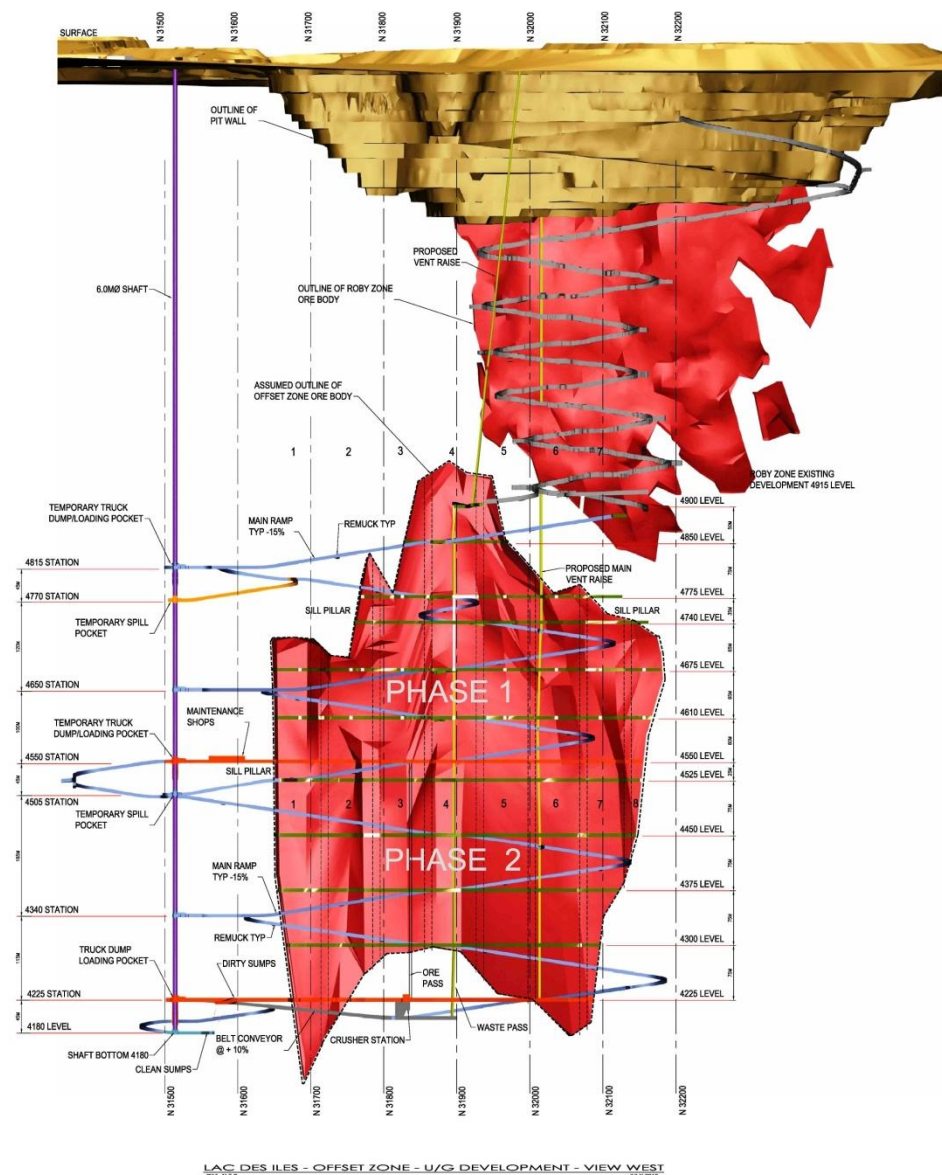
- Price of palladium forecasted to rise in the next 10 years
- CPM forecast: palladium to average US\$588/oz (in constant dollars) over the next 8 years
- Using CPM's forecast, the project yields:
  - 29.8% IRR (pre-tax)
  - \$479M undiscounted cash flow
  - \$305M pre-tax NPV at 5% discount rate
  - 33-month payback period



# Mining Plan

## NAP to become a very low cost palladium producer

- Super Shrinkage mining method:
  - Similar to Agnico-Eagle's Goldex mine
  - Incorporates a footwall ramp, a production shaft & ventilation raise
  - Blast large mining blocks 60m x 75m with 10m rib pillars
  - Due to the rock conditions, no backfilling is anticipated
  - Highly mechanized operation
- Plan to raisebore a shaft to surface from the 4,815 level to commence commercial production
- Subsequently sink the shaft to bottom (4,180 level)





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LAC DES ILES - OFFSET ZONE - U/G DEVELOPMENT - VIEW WEST

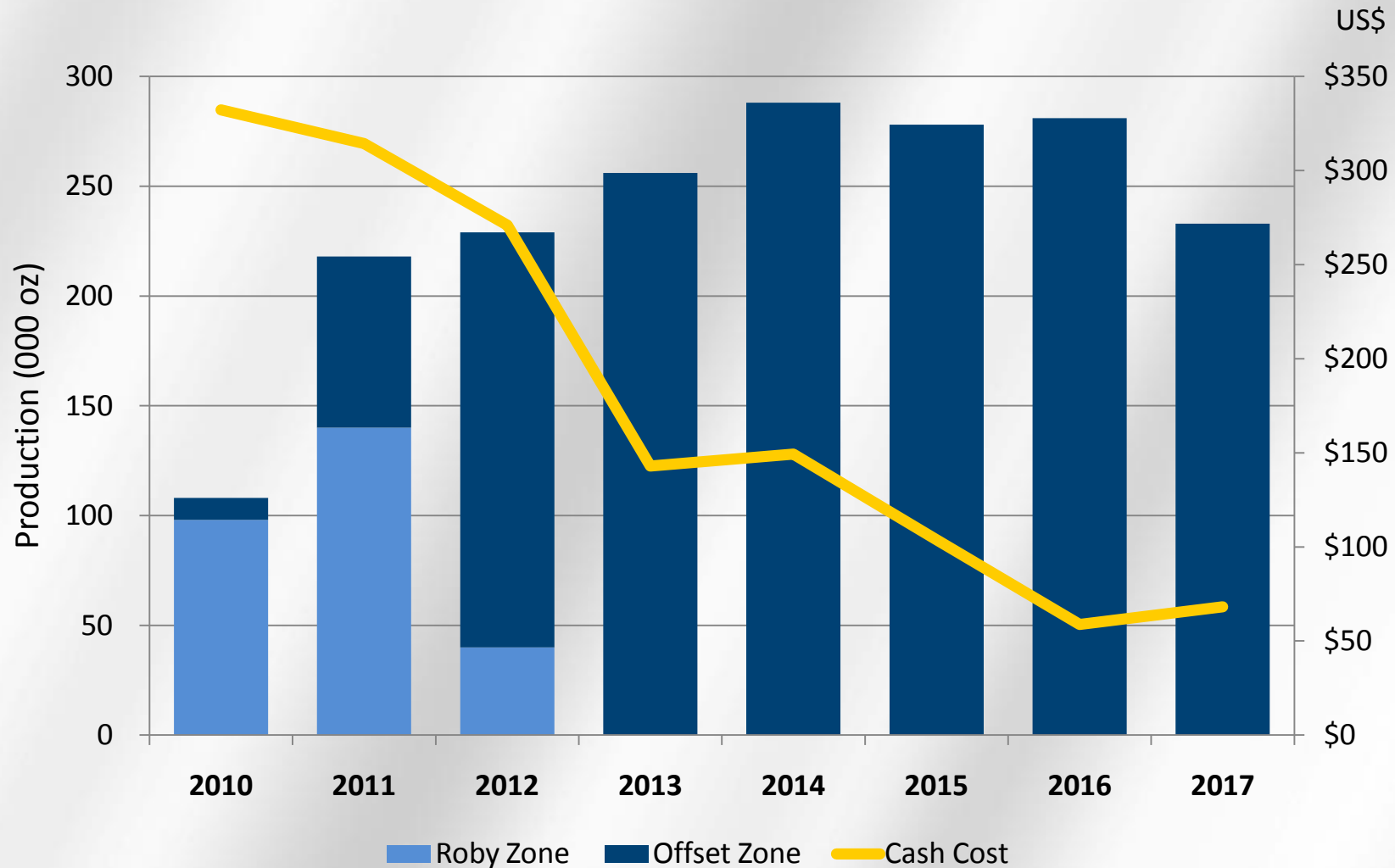
# Estimated Production Schedule

Production	Year	Tonnes Milled (000's)	Avg. Diluted Grade (g/t Pd)	Pd Oz Production (000's)	Cash Cost (US\$/oz)
<b>Pre-Commercial</b>	2010	68	6.2	10	403
	2011	485	6.6	78	250
<b>3,500 tpd</b>	2012 <sup>1</sup>	1,264	6.1	189	254
	2013	1,728	6.0	256	143
<b>5,500 tpd</b>	2014 <sup>2</sup>	2,000	5.9	288	149
	2015	2,000	5.7	278	104
	2016	2,000	5.7	281	59
	2017	1,771	5.3	232	68
	<b>LOM</b>	11,300	5.8	1,613	132

1. Commercial production from the shaft at 3,500 tpd is expected in Q3 2012.

2. Production from the shaft at 5,500 tpd is expected in Q4 2014.

# Long Life, Low Cost Production



# Capital Expenditures

- Pre-commercial production capital expenditures estimated at \$204.1 M *(including \$24.6 M contingency)*:
  - 2010: \$35.4 M
  - 2011: \$116.7 M
  - 2012 (Q1-Q3): \$52 M
- Capital expenditures for development post commercial production are estimated at \$71.9 M *(including \$7.2 M contingency)*:
  - 2012 (Q4): \$11.6 M
  - 2013: \$30.1 M
  - 2014: \$30.2 M

Capital Expenditures	Pre-Commercial Production (2010 – Q3 2012)
Definition Drilling	\$7.0 M
Waste Development	\$42.7 M
Surface, Shaft, and Service Facilities	\$99.2 M
U/G Infrastructure Development & Construction	\$3.4 M
Mining Equipment	\$14.2 M
Surface Equipment	\$0.2 M
Engineering	\$2.5 M
Project Management	\$10.3 M
<b>Subtotal</b>	<b>\$179.5 M</b>
<i>Contingency (13.7%)</i>	<i>\$24.6 M</i>
<b>Total</b>	<b>\$204.1 M</b>

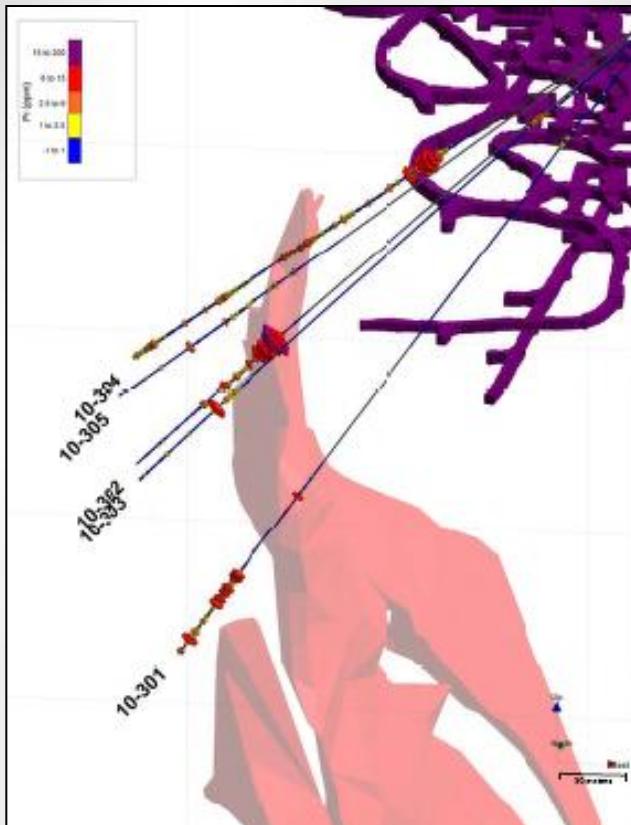


# Significant Exploration Upside

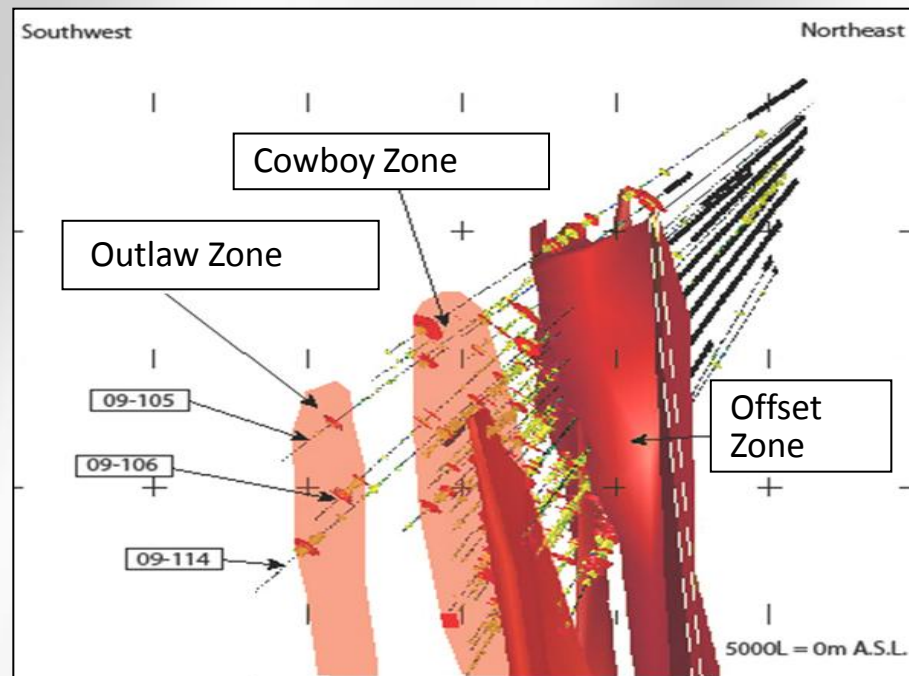


Continued exploration has potential to increase resources & extend mine life

2010 drilling extended upper part of Offset Zone, which remains open in all directions:



Two new zones discovered in 2009 – Cowboy and Outlaw, which are **not** included in the May 2010 Resource Estimate:



# Low Execution Risk



- Over 17 years of milling & mining experience at LDI
- \$500 M invested in infrastructure and mineral rights to date
  - Fully permitted and under utilized facilities
  - 15,000 tpd mill
- Strong management & operating team in place with a solid track record in underground development





# Low Execution Risk



- Currently mining underground in Roby Zone
- Initial development already in progress:
  - Roby Zone ramp expansion to 4,700 level
  - Service cage & production hoist were recently purchased
  - Raiseboring scheduled to start in Nov. 2010
- Brownfield expansion vs. greenfield project
- No long lead items (*e.g. hoist already purchased*)
- No capex currency risk as all expenditures are in C\$



# Next Steps



Next steps to commercial production (3,500 tpd), targeted for Q3 2012:



Construction of the hoisting plant



Raiseboring and furnishing the upper 690 m of the production shaft



Raiseboring the ventilation raise from the 4,850 level



Developing the ramp and levels down to the 4,550 level



Developing the 4,550 level haulage and sill drifts

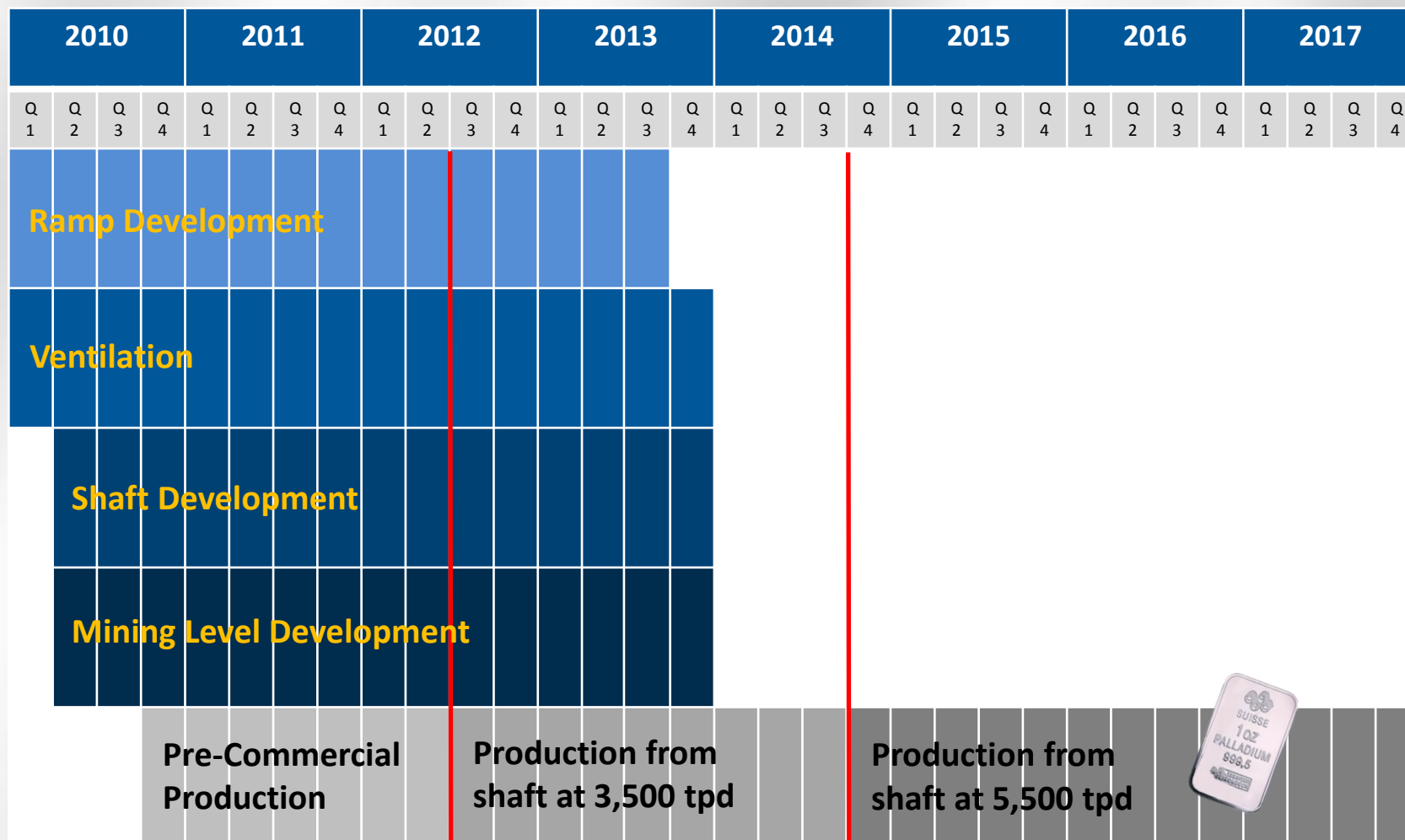


Definition drilling (69,500 m)

**\$35 Million in capital expenditures allocated for remainder of 2010**



# Development Schedule



# Summary



Long life, low cost palladium production

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Robust project economics

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Low execution risk

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Significant exploration upside could increase resources and production

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Well funded to pursue development

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North American Palladium Ltd.

## **Appendices & Further Information**

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# Scoping Study – Base Case Quick Facts



Mineral Resource Estimate	<p><b><u>Indicated Category</u></b></p> <p>8.6 million tonnes grading 6.29 g/t Pd, 0.419 g/t Pt, 0.395 g/t Au, 0.110% Cu, 0.136% Ni</p> <p><b><u>Inferred Category</u></b></p> <p>3.3 million tonnes grading 5.70 g/t Pd, 0.352 g/t Pt, 0.233 g/t Au, 0.074% Cu, 0.095% Ni</p>
Potentially Mineable Resource (after mining dilution & recovery)	<p><b><u>Indicated Category:</u></b></p> <p>8.5 million tonnes grading 6.00 g/t Pd; 0.40 g/t Pt; 0.38 g/t Au; 0.105% Cu; 0.132% Ni</p> <p><b><u>Inferred Category:</u></b></p> <p>2.8 million tonnes grading 5.23g/t Pd; 0.33g/t Pt; 0.23 g/t Au; 0.073% Cu; 0.094% Ni</p>
Mining Dilution	10% (@ 3.0 g/t)
Mining Recovery	90%
Processing Recovery (Pd)	82%
Palladium Produced	1.6 million ounces
Platinum Produced	97,000 ounces
Gold Produced	85,000 ounces
Nickel Produced	8.5 million pounds
Copper Produced	17.3 million pounds
Pre-Production Capital Expenditures	\$204.1 million
Development Capital Expenditures	\$71.9 million
Sustaining Capital Expenditures	\$7.9 million
<b><u>Mine Site Operating Costs:</u></b>	
Mining Cost (\$/t)	\$25.53
Processing Cost (\$/t)	\$12.41
General & Administration Cost (\$/t)	\$ 3.33
Contingencies (\$/t)	\$ 2.00
Total Operating Cost (\$/t)	\$43.27
LOM Cash Cost (per ounce)	\$132
IRR (pre-tax)	16.7%
IRR (post-tax)	16.0%
LOM	8 years
Undiscounted Cash flow (pre-tax)	\$256 million
NPV (5%) (pre-tax)	\$138 million
Payback Period	46 months



# Cautionary note to U.S. investors concerning mineral reserves and mineral resources



Mineral reserves and mineral resources have been calculated in accordance with National Instrument 43-101 as required by Canadian securities regulatory authorities. For United States reporting purposes, Industry Guide 7, (under the Securities and Exchange Act of 1934), as interpreted by Staff of the Securities Exchange Commission (SEC), applies different standards in order to classify mineralization as a reserve. In addition, while the terms “measured”, “indicated” and “inferred” mineral resources are required pursuant to National Instrument 43-101, the U.S. Securities and Exchange Commission does not recognize such terms. Canadian standards differ significantly from the requirements of the SEC, and mineral resource information contained herein is not comparable to similar information regarding mineral reserves disclosed in accordance with the requirements of the U.S. Securities and Exchange Commission. U.S. investors should understand that “inferred” mineral resources have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. In addition, U.S. investors are cautioned not to assume that any part or all of NAP's mineral resources constitute or will be converted into reserves. For a more detailed description of the key assumptions, parameters and methods used in calculating NAP's mineral reserves and mineral resources, see NAP's most recent Annual Information Form/Form 40-F on file with Canadian provincial securities regulatory authorities and the SEC.

# Lac des Iles Mine



## Mineral Resources – December 31, 2008 (Note: next update expected in Q4, 2010)

Location	Tonnes (000's)	Pd (g/t)	Pt (g/t)	Au (g/t)	Cu (%)	Ni (%)	PdEq (g/t)	Pd (000 oz)
<b>Measured Resources</b>								
Roby Open Pit	3,722	1.99	0.23	0.17	0.075	0.065	3.77	238
Roby Stockpiles	763	2.09	0.19	0.18	0.060	0.079	3.79	51
<b>Indicated Resources</b>								
Roby Open Pit	2,565	2.20	0.24	0.18	0.078	0.068	4.07	181
Roby RGO Stockpile	13,365	0.97	0.12	0.08	0.034	0.056	2.00	417
Roby Underground	3,292	7.61	0.44	0.33	0.062	0.077	10.46	805
Offset Underground*	12,331	5.02	0.38	0.37	0.114	0.133	8.28	1,990
<b>Total M&amp;I Resources</b>	<b>36,038</b>	<b>3.18</b>	<b>0.26</b>	<b>0.22</b>	<b>0.072</b>	<b>0.086</b>	<b>5.29</b>	<b>3,682</b>
<b>Inferred Resources</b>								
Offset Underground*	4,637	4.9	0.4	0.3	0.12	0.13	8.0	730

\* Superseded by May 2010 update; see pg. 23

### Notes:

1. CIM definitions were followed for the estimation of Mineral Resources. Mineral Resources for the Roby Open Pit were estimated at a cut-off grade of 1.8 g/t PdEq, within an optimized pit shell run below the current pit survey (Oct. 2008). Mineral Resources in stockpiles were estimated at a cut-off grade of 1.9 g/t PdEq. Mineral Resources for the Roby and Offset Zones underground were estimated at a cut-off grade of 5.8 g/t PdEq.
2. Cut-off grades were determined under the assumption that a production rate of 14,000 tpd would be resumed in the event of restarting operations.
3. PdEq factors were calculated separately for each area, based on operating cost and metallurgical performance estimates appropriate for those areas.
4. Metal price assumptions of US \$350/oz palladium, US\$1,400/oz platinum, US\$850/oz gold, US\$6.50/lb nickel and US\$2.00/lb copper were used in the estimation of Pd/Eq and cut-off grade. A US\$/C\$ exchange rate of 1.11 was used.

Please refer to North American Palladium's Annual Information Form for the year ended December 31, 2008 and applicable technical reports filed on [www.sedar.com](http://www.sedar.com), [www.sec.gov](http://www.sec.gov) and [www.nap.com](http://www.nap.com) for further information.

# Lac des Iles Mine: Offset Zone



## Mineral Resource Estimate – May 2010

Category	Tonnes (millions)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)	Pd (000 oz)
Indicated	8,628	6.29	0.419	0.395	0.136	0.110	1,745
Inferred	3,322	5.70	0.352	0.233	0.095	0.074	609

### Notes:

1. Prepared by Mr. Richard Routledge, M.Sc., P. Geol., Senior Consulting Geologist for Scott Wilson RPA, an independent Qualified Person within the meaning of NI 43-101. CIM definitions were followed for the estimation of Mineral Resources.
2. The resource wireframe was constructed at a cut-off of 4 g/t Pd and a minimum five-metre horizontal mining width. Assays were capped at various levels depending on metal grade distributions. Resources were estimated to the 4070 Mine Level (-930 m elevation), a maximum depth of 1,430 m.

The Offset Zone resource estimate is available on [www.sedar.com](http://www.sedar.com), [www.sec.gov](http://www.sec.gov) and [www.nap.com](http://www.nap.com).

# 2010 LDI Drill Results – Roby Zone



## Roby Extension Drilling Results

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-101	184	186	2	3.6	0.32	0.07	0.01	0.04	0.01
10-102	164	182	18	5	0.27	0.07	0.01	0.04	0.01
10-103	137	144	7	7.64	0.94	0.12	0.01	0.05	0.01
10-104	135	137	2	5.25	0.41	0.54	0.03	0.06	0.01
10-105	160	166	6	24.31	1.17	0.86	0.04	0.08	0.01
Including	164	165	1	109	4.82	2.35	0.05	0.08	0.01
10-106	117	128	11	5.89	0.32	0.28	0.02	0.06	0.01
Including	121	128	7	6.84	0.37	0.38	0.03	0.07	0.01
10-107	121	124	3	12.9	0.73	0.33	0.03	0.07	0.01
10-108	95	98	3	9.95	0.37	0.15	0.01	0.06	0.01
10-109	78	80	2	3.12	0.38	0.14	0.05	0.06	0.01
10-110	Abandoned								
10-111	180	184	4	5.43	0.43	0.12	0.01	0.03	0.01
10-112	160	162	2	3.03	0.3	0.17	0.01	0.06	0.01
10-113	No significant values								
10-114	141	152	11	5.31	0.33	0.27	0.01	0.05	0.01
Including	146	152	6	8.06	0.44	0.08	0.01	0.04	0.01
10-115	No significant values								
10-116	135	139	4	5.99	0.31	0.07	0.01	0.04	0.01
10-117	101	104	3	4.82	0.45	1.3	0.07	0.15	0.01
10-118	175	180	5	13.42	0.96	1.2	0.11	0.16	0.01
10-119	135	146	11	6.89	0.36	0.15	0.01	0.05	0.01
10-120	104	107	3	4.56	0.23	0.02	0.02	0.04	0.01
10-121	123	141	18	6.70	0.41	0.67	0.13	0.12	0.01
10-122	160	169	9	6.86	0.35	0.08	0.01	0.04	0.01
Including	160	165	5	8.36	0.47	0.11	0.03	0.04	0.01

Issued on June 7, 2010 - update on the drill results from the 2010 exploration program .



# 2010 LDI Drill Results – Offset Zone



## Program: Offset In-Fill (10-200 series)

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-201	259	299	40	6.89	0.40	0.39	0.085	0.122	0.007
Including	259	269	10	11.68	0.61	0.30	0.056	0.115	0.009
10-202	291	306	15	3.23	0.26	0.65	0.116	0.136	0.006
10-203	NSA								
10-204	338	407	69	5.09	0.30	0.25	0.062	0.098	0.006
Including	384	393	9	8.02	0.52	0.17	0.048	0.104	0.005
Including	397	407	10	11.50	0.57	0.58	0.129	0.148	0.007
10-205	359	374	15	7.04	0.43	0.67	0.188	0.189	0.008
Including	401	434	33	6.22	0.35	0.23	0.061	0.080	0.005

## Program: Upper Offset

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-301	368	389	21	4.65	0.35	0.28	0.096	0.113	0.007
10-302	266	284	18	9.56	0.58	0.34	0.084	0.142	0.007
Including	269	274	5	14.31	0.83	0.41	0.057	0.126	0.008
10-303	305	310	5	5.62	0.46	0.39	0.096	0.146	0.007
10-304	154	165	11	7.50	0.45	0.48	0.124	0.164	0.008
Including	159	165	6	9.28	0.53	0.57	0.142	0.193	0.007
10-305	297	298	2	5.68	0.51	0.05	0.010	0.100	0.010
10-306	195	212	17	4.85	0.32	0.44	0.070	0.100	0.010
10-306	204	208	4	6.62	0.39	0.78	0.120	0.140	0.010

Issued on June 7, 2010 - update on the drill results from the 2010 exploration program . These results are the first tranche of drill results from a 53,000 metre 2010 drill program underway at LDI and were not included in the resource update for the Offset Zone.

# 2010 LDI Drill Results – Offset Zone



## Program: 4900 Vent Raise

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-330	72	83	11	10.72	0.65	0.58	0.13	0.16	0.01
Including	75	81	6	15.27	0.89	0.77	0.14	0.18	0.01
10-331	77	82	5	2.2	0.2	0.19	0.07	0.1	0.01
10-332	61	69	8	5.36	0.32	0.3	0.06	0.12	0.01
Including	61	65	4	7.44	0.43	0.38	0.05	0.14	0.01
10-333	72	81	9	6.53	0.38	0.5	0.09	0.13	0.01
Including	72	78	6	8.2	0.4	0.68	0.1	0.15	0.01
10-334	70	81	11	8	0.47	0.24	0.08	0.1	0.01
Including	74	79	5	13.14	0.68	0.29	0.09	0.13	0.01

## Program: South Offset (Directional)

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-501	701	709	8	9.65	0.53	0.56	0.116	0.123	0.006
10-501	1029	1047	18	2.44	0.36	0.26	0.209	0.163	0.009
10-501	1138	1157	19	3.53	0.45	0.36	0.118	0.114	0.008
10-502	703	708	5	8.46	0.45	0.49	0.114	0.101	0.006

*Issued on June 7, 2010 - update on the drill results from the 2010 exploration program . These results are the first tranche of drill results from a 53,000 metre 2010 drill program underway at LDI and were not included in the resource update for the Offset Zone.*

# 2010 LDI Drill Results – Offset Zone



## Program: Deep Offset

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
10-551	1286	1314	28	6.02	0.40	0.60	0.21	0.27	0.01
Including	1290	1297	7	12.33	0.63	0.43	0.10	0.18	0.01
Including	1369	1387	18	5.50	0.44	0.82	0.17	0.19	0.01

## Program: North Offset

Drill Hole	From (m)	To (m)	Length (m)	Pd g/t	Pt g/t	Au g/t	Cu %	Ni %	Co %
09-954	217	232	15	9.01	0.48	0.49	0.064	0.109	0.008
Including	222	227	5	18.63	0.83	0.81	0.096	0.133	0.008
09-955	218	234	16	8.20	0.53	0.47	0.060	0.104	0.008
Including	223	230	7	12.99	0.75	0.41	0.046	0.103	0.008
09-956	NSA	Overshot target							
09-958	NSA	Overshot target							
09-959	NSA	Overshot target							
09-960	NSA	Overshot target							

*Issued on June 7, 2010 - update on the drill results from the 2010 exploration program . These results are the first tranche of drill results from a 53,000 metre 2010 drill program underway at LDI and were not included in the resource update for the Offset Zone.*