

NORTH AMERICAN PALLADIUM

THE WORLD'S ONLY PURE PLAY PALLADIUM PRODUCER

TSX:PDL | OTC:PALDF

2019 INVESTOR PRESENTATION

NAP
ALLADIUM

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ALL DOLLAR AMOUNTS SHOWN ARE IN CANADIAN DOLLARS UNLESS OTHERWISE STATED

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This presentation also contains references to estimates of mineral resources and mineral reserves. The estimation of mineral resources is inherently uncertain and involves subjective judgments about many relevant factors. Mineral resources that are not mineral reserves do not have demonstrated economic viability. The accuracy of any such estimates is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation (including estimated future production from the LDI mine, the anticipated tonnages and grades that will be mined and the estimated level of recovery that will be realized), which may prove to be unreliable and depend, to a certain extent, upon the analysis of drilling results and statistical inferences that may ultimately prove to be inaccurate. Mineral resource or mineral reserve estimates may have to be re-estimated based on: (i) fluctuations in the price of platinum; (ii) results of drilling, (iii) metallurgical testing and other studies; (iv) mining operations, including dilution; (v) the evaluation of mine plans subsequent to the date of any estimates; and (vi) the possible failure to receive required permits, approvals and licenses or changes to existing mining licences.

Forward-looking statements are necessarily based upon a number of factors and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties and contingencies. The factors and

assumptions contained in this presentation, which may prove to be incorrect, include, but are not limited to: that the Company will be able to continue normal business operations at its LDI mine, that metal prices and exchange rates between the Canadian and United States dollar will be consistent with the Company's expectations, that there will be no significant disruptions affecting operations, and that prices for key mining and construction supplies, including labour, will remain consistent with the Company's expectations. The forward-looking statements are not guarantees of future performance. 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.

Investing in the Company's common shares involves significant risks. Prospective investors should carefully read and consider the risk factors described or referenced under the heading "Risk Factors" in the Company's Annual Information Form, and in any applicable documents on file with Canadian securities regulatory authorities on SEDAR at www.sedar.com, before purchasing common shares.

The Company prepares and presents its financial statements in accordance with IFRS. Certain financial measures highlighted in this presentation are financial measures that have not been prepared in accordance with IFRS. For a definition and reconciliation of these non-IFRS financial measures to the nearest IFRS financial measures, please refer to the appendix to this presentation. Such non-IFRS financial measures are used from time to time herein but should not be viewed as a substitute for IFRS measures of performance and others in the industry may define these measures differently.

COMPANY OVERVIEW

- North American Palladium (“NAP”) wholly owns and operates the Lac des Iles Mine in Ontario, Canada.
- The mine has been operational for more than 25 years and includes established infrastructure, including an underground mine, surface mining, a 15,000 tpd mill, year-round access, and low-cost power from the provincial grid.
- LDI is a unique ore body with solid exploration potential, run by an experienced management team composed of proven operators.
- NAP is the only pure play palladium producer in the world.



CAPITAL STRUCTURE

(As of December 31, 2018)

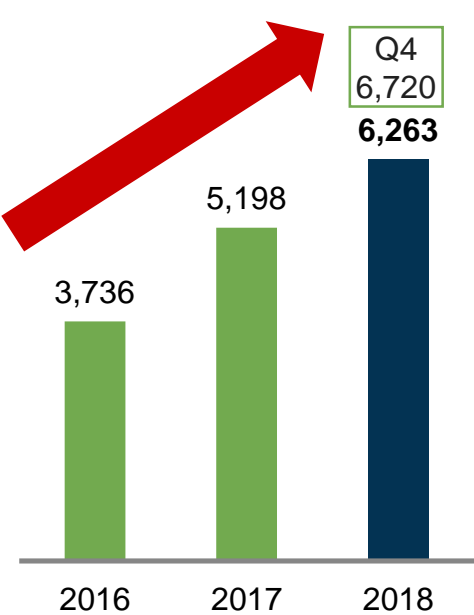
Share Price (15-Feb-19)	C\$15.49
Shares Outstanding	58.8 mm
ITM Options	1.5 mm
Market Capitalization	C\$934 mm
Cash	C\$12 mm
ITM Proceeds	C\$9 mm
Debt ¹	C\$49 mm
Enterprise Value	C\$962 mm

¹Debt includes credit facility (C\$37 mm) and finance leases (C\$12.1 mm).

OPERATIONAL TURNAROUND SUCCESSFULLY EXECUTED

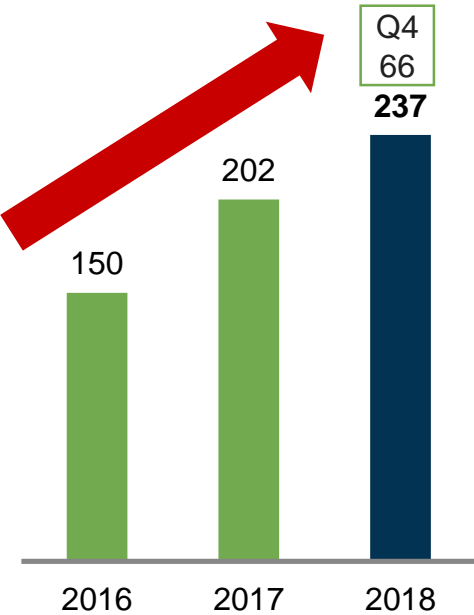
UNDERGROUND PRODUCTION

Average tonnes per day



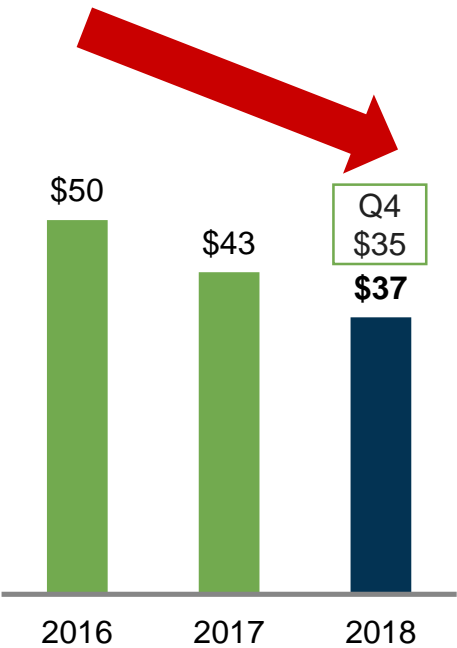
PAYABLE PALLADIUM

Thousand ounces produced



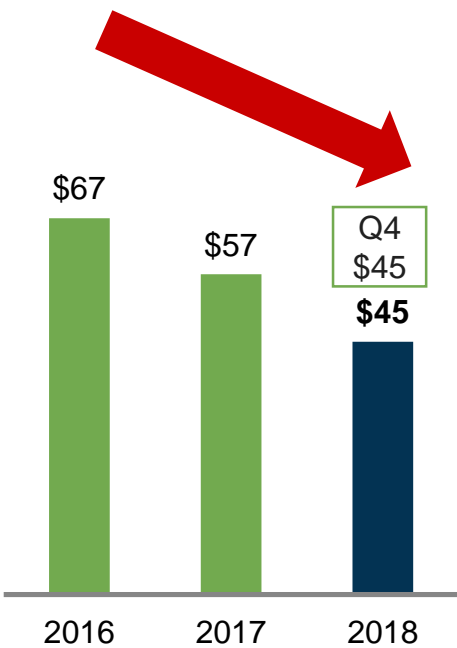
UNDERGROUND MINING COST

C\$ per tonne mined



TOTAL SITE COST

C\$ per tonne milled



The Company's well-established and proven new management team re-engineered LDI Mine into a strong, cash flow-generating asset by:

- Transitioning to sub-level shrinkage (SLS) mining method
- Increasing production headings
- Self-executing tailings dam construction
- Transitioning to full-time mill operations

CATALYSTS FOR VALUE CREATION

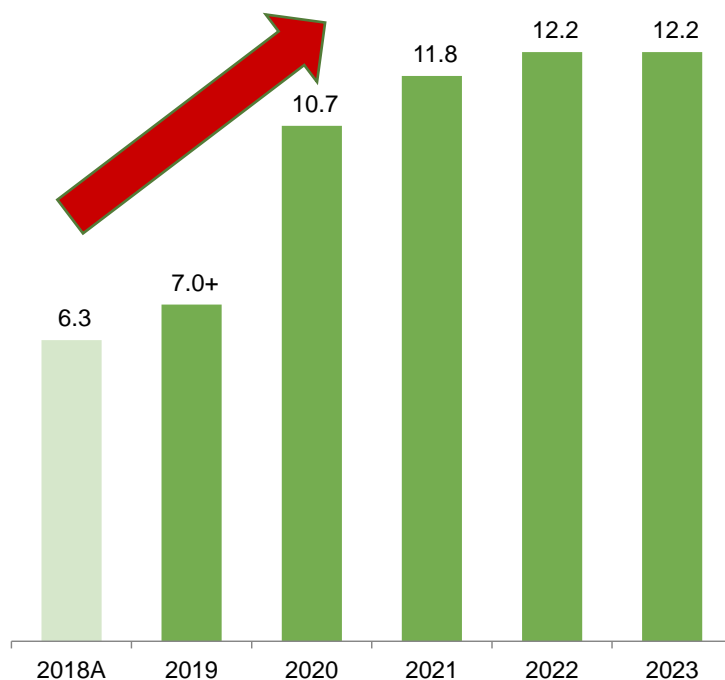
1	Strong Free Cash Flow Profile	<ul style="list-style-type: none">● C\$168 mm in 2018 Adj. EBITDA at an average realized price of US\$1,111/oz Pd● +US\$100/oz increase in palladium price equates to ~US\$25 mm in additional annual revenue
2	Robust Palladium Market Fundamentals	<ul style="list-style-type: none">● Fundamental market deficit expected to continue for foreseeable future
3	Significant Exploration Portfolio	<ul style="list-style-type: none">● 100% reserve replacement over last 15 years● More exploration targets, both underground and within 2 km of minesite on surface, than ever before in the Company's history
4	Attractive Valuation	<ul style="list-style-type: none">● Trades at a discount to PGM and precious metals peers
5	Highly-Experienced Management Team	<ul style="list-style-type: none">● Management team that executed the turnaround is still in place with a long list of value creation initiatives● Supportive primary shareholder in Brookfield

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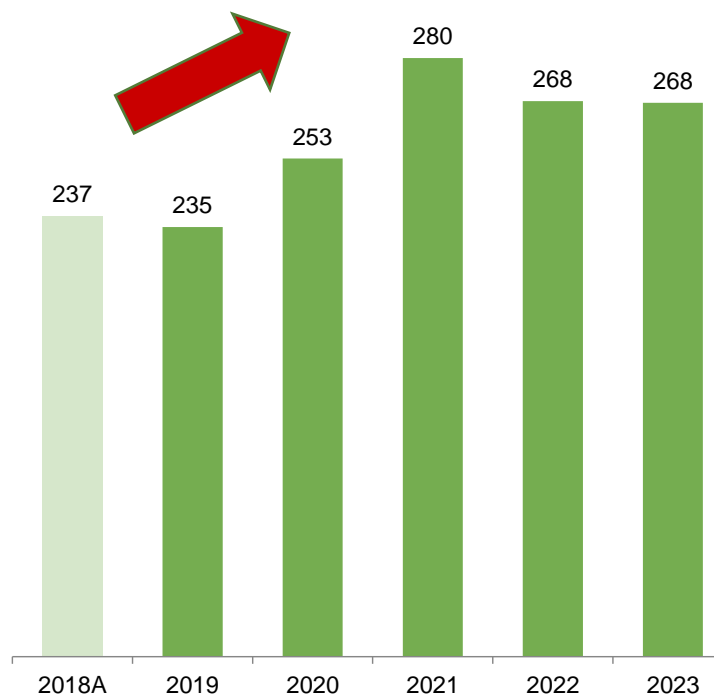
Strong Free Cash Flow Profile – Production Increase

Based on 2018 Feasibility Study

Underground tonnage
(thousand tonnes mined per day)



Palladium Production
(payable koz)



Operational Drivers

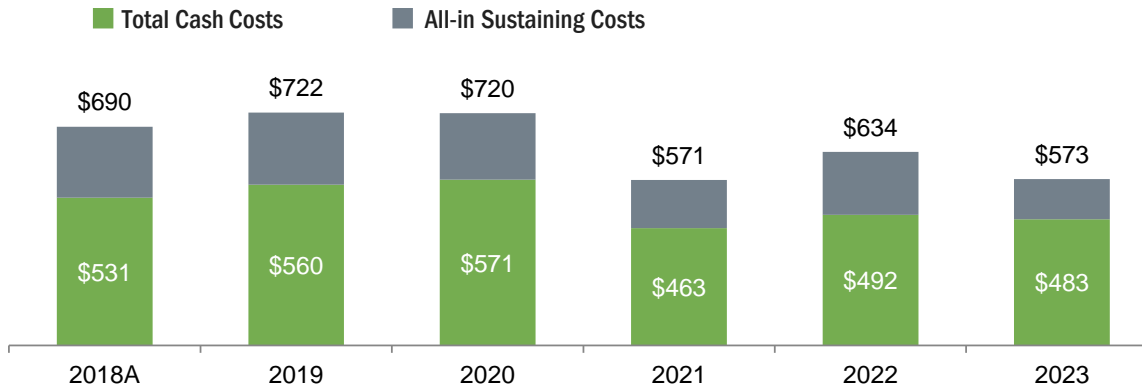
- Increasing underground tonnes
- Improving grade profile
- Optimizing mill recoveries

Increasing underground production at a lower unit cost is the focal point of operational strategy at Lac des Iles.

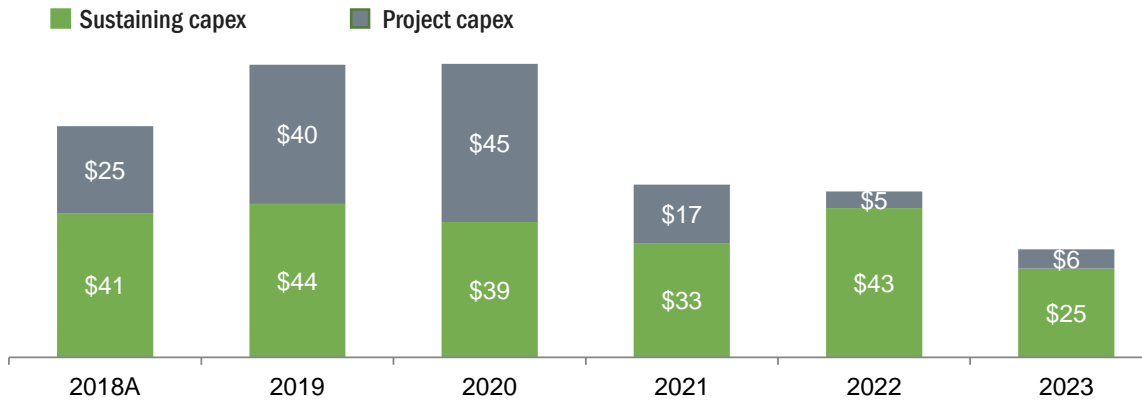
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Strong Free Cash Flow Profile – High Margin – Low Capex

Cost Profile, net of by-products (US\$ / oz)



Capital Expenditures (C\$ mm)



Cost Reduction Drivers

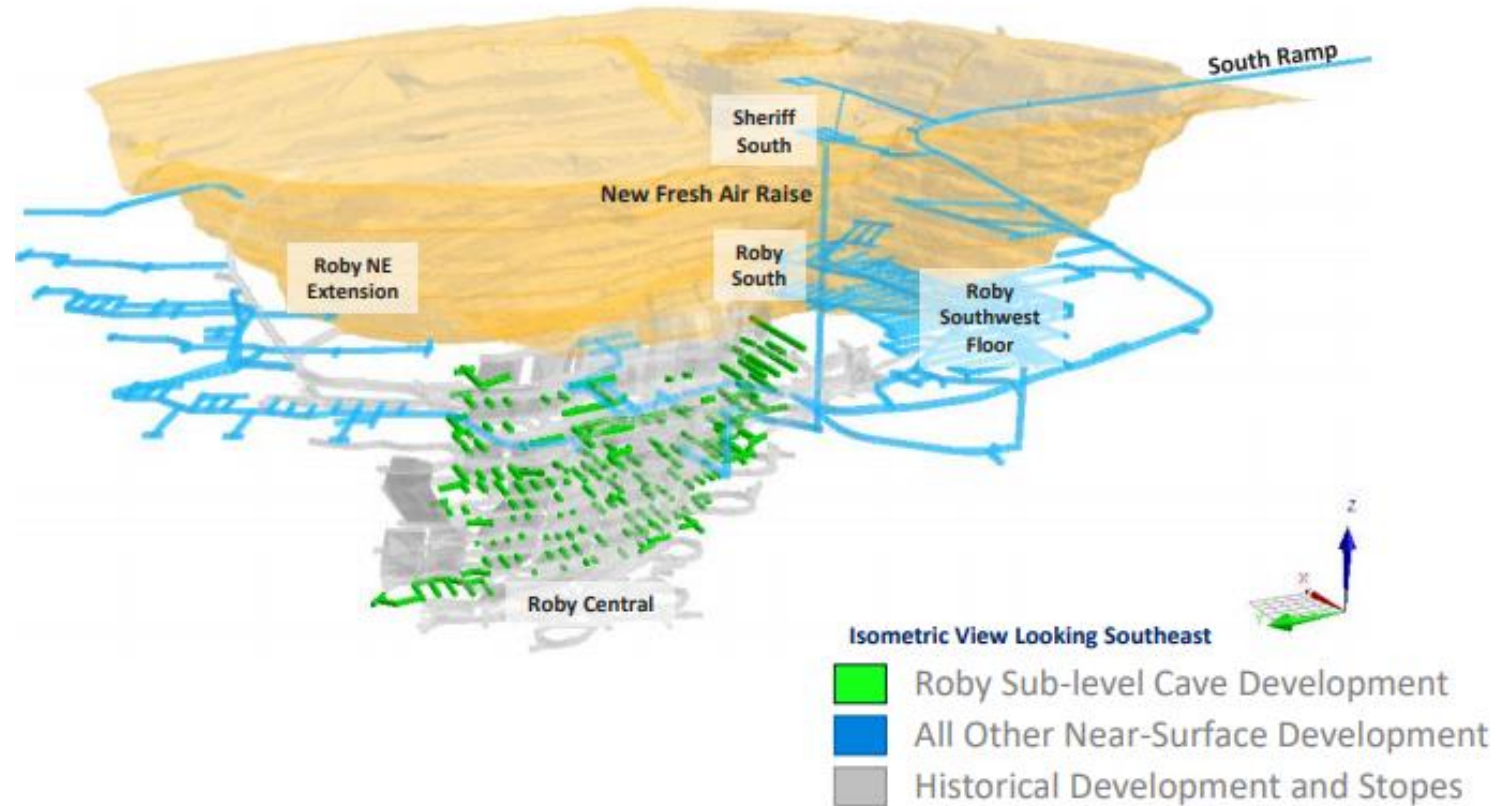
- Access to low-cost tonnes as upper mine ramps up
- Further optimizing mine and mill performance to drive unit cost improvement
- Completion of underground development
- Conclusion of key equipment acquisition

Optimization of cash costs per ounce and completion of major capital plan drives significant FCF generation.

1

Strong Free Cash Flow Profile – Low-Cost Mine Development

Roby Zone Development

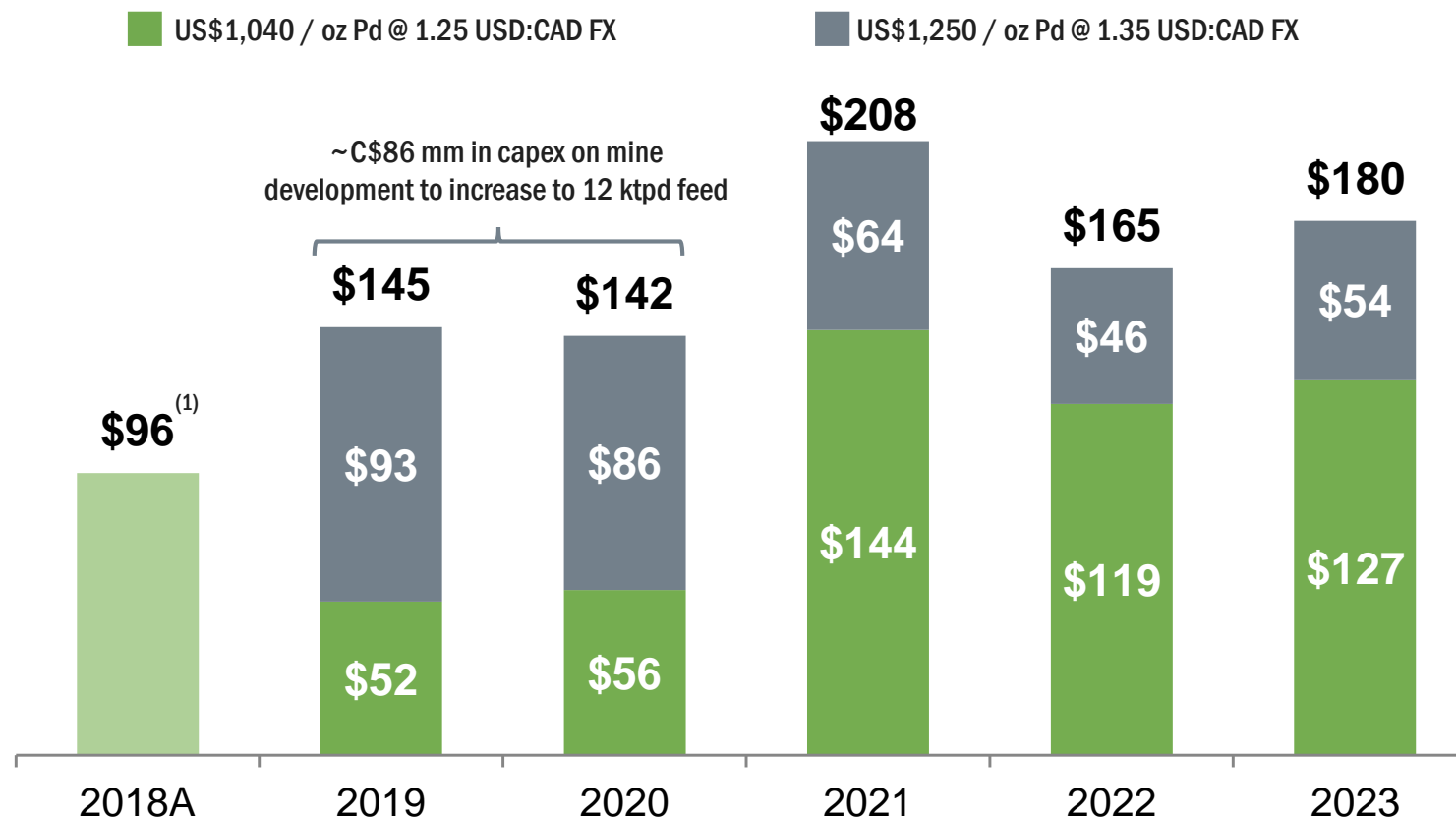


Existing infrastructure permits low-cost expansion.

1

Strong Free Cash Flow Profile – Positive Cash Flow Trajectory

Yearly After-Tax Cash Flow (C\$ mm)



Significant increase in after-tax cash flow is attributable to higher production and lower projected capital spending.

Note: Cash flow figures at asset level and exclude exploration and certain corporate expenses not related to operations.

1. 2018 LDI after-tax cash flow; figure excludes exploration expenditures and corporate expenses not related to LDI operations.

2 Robust Palladium Market Fundamentals

Environmental policy and growing demand

Tightening environmental standards and the global shift to lower emissions.



China

- **China 6 Emission Standard** – Staged implementation (China 6A in 2020 and China 6B RDE in 2023) – targets all vehicles



USA

- Tier 3 – Stringent phase-in from 2017 to 2025



Europe

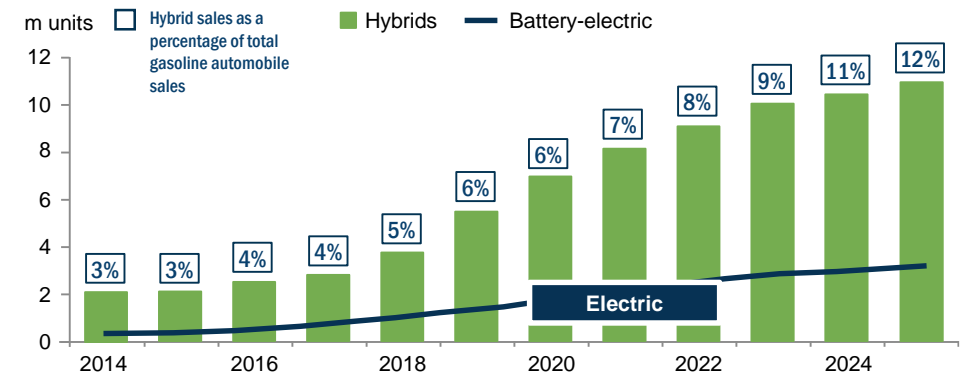
- **Real Driving Emissions (RDE) Tests** – Air pollutant tests partially enforced in 2017; RDE testing begins in 2020 and will be fully enforced in 2021



Air quality regulations are the main driver of increased palladium consumption.

- 85.5% of total palladium consumption is attributed to automotive demand (autocatalysts)⁽¹⁾
- Hybrids contain 10% – 15% more palladium than conventional gasoline vehicles⁽²⁾

Global Electrification: Forecasted Penetration Rates (Hybrids vs. EVs)⁽²⁾



Higher palladium loadings are required in catalytic converters to achieve elevated environmental standards.

Source: LMC Automotive, Johnson Matthey, SFA Oxford

1. Johnson Matthey – February 2019 PGM Report.
2. SFA Oxford – The Palladium Standard.

RDE Image source: <https://www.continental-automotive.com/>

For more information on RDE, visit:

<https://www.youtube.com/watch?v=eYzPwhDEbE>

<https://www.youtube.com/watch?v=CqlxLWNLkk0&t=62s>

2

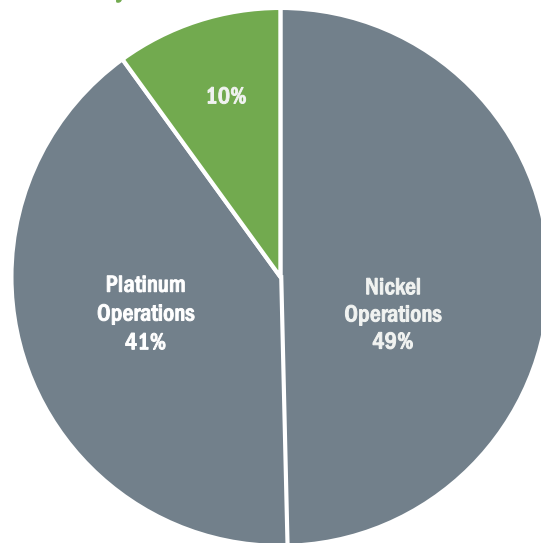
Robust Palladium Market Fundamentals (Cont'd)

Supply constrained because palladium is predominantly sourced as by-product from high-risk jurisdictions

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INELASTIC SUPPLY

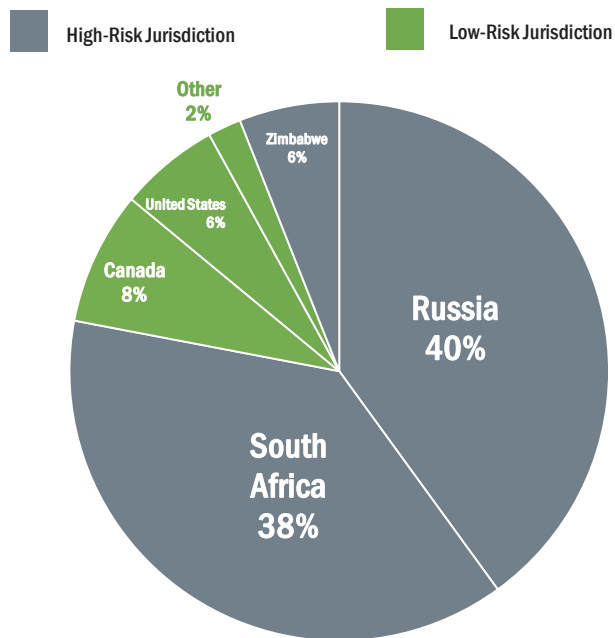
Primary Production



Source: Metals Focus Report 2018

2

JURISDICTIONAL RISK

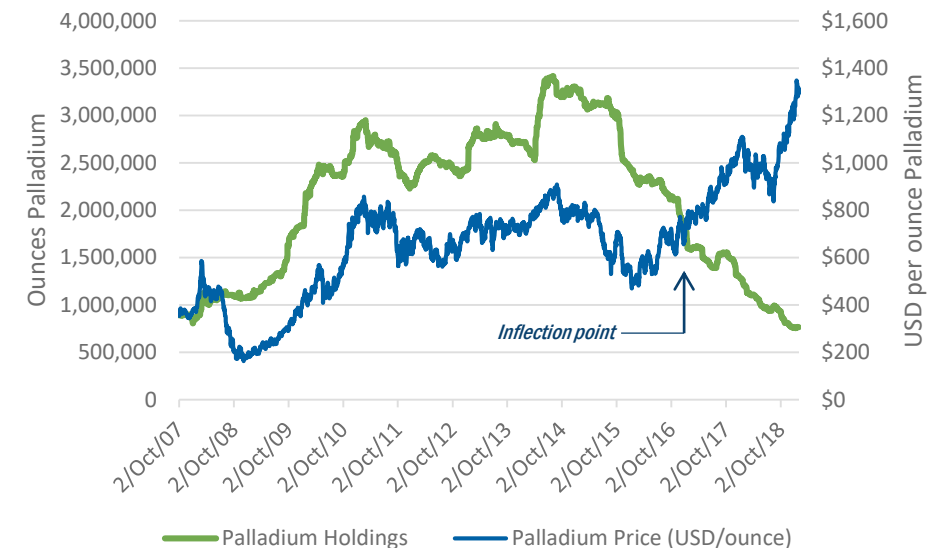


Source: S&P Global Market Intelligence, Metals Focus 2018

3

ON-GROUND INVENTORY DEPLETION

Total Palladium Holdings (FTFs & Nymex) versus Price



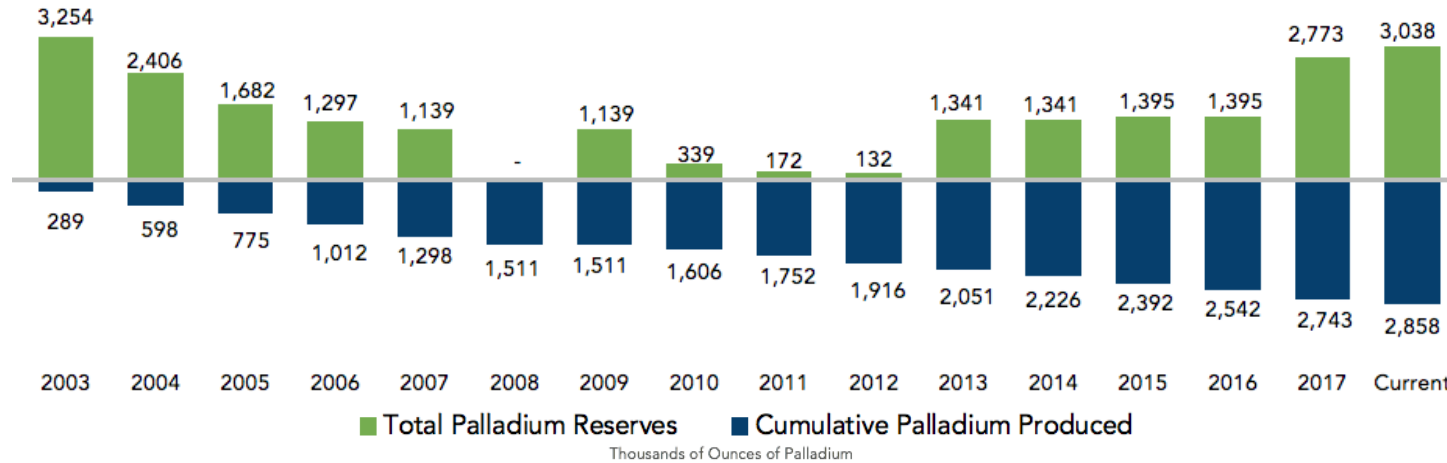
Source: Bloomberg, January 31, 2019.

**Platinum does not perform as well as palladium in emissions testing, making substitution unlikely;
NAP is positioned to capitalize on strong fundamentals in 2019 and beyond.**

3

Significant Exploration Potential

Consistent replacement of reserves over past 15 years with limited exploration budget



Holistic Approach to Future Reserve Growth

Expansion of Existing Reserves

7 targets identified for 2019 drill program

High Priority: Camp Lake



Immediate Minesite Opportunities

3 targets identified for 2019 drill program

High Priority: Creek Zone



Greenfields Portfolio

Portfolio of early-stage projects

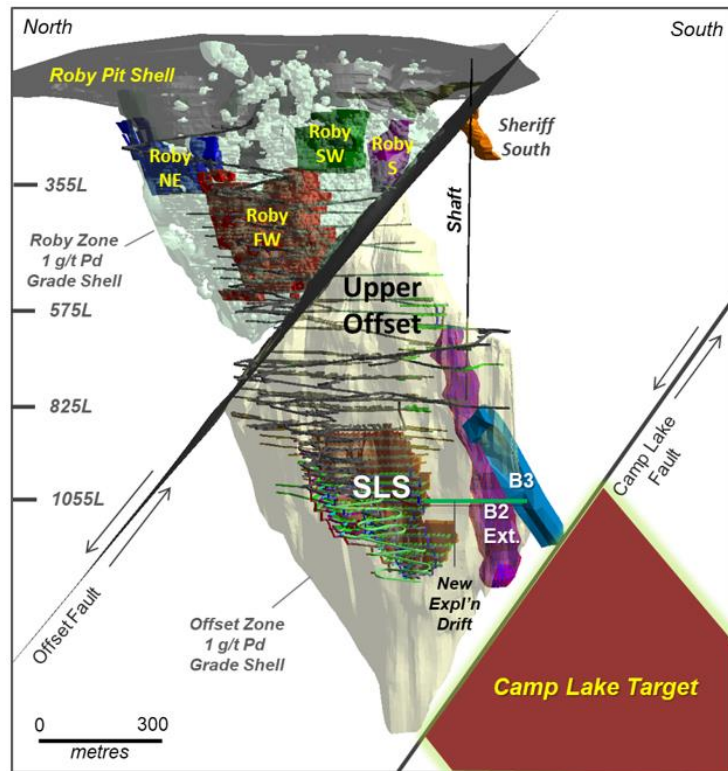
High Priority: Sunday Lake

NAP is maintaining a long-life asset with prudent exploration investment.

Significant Exploration Potential – Ongoing Expansion of Existing Reserves

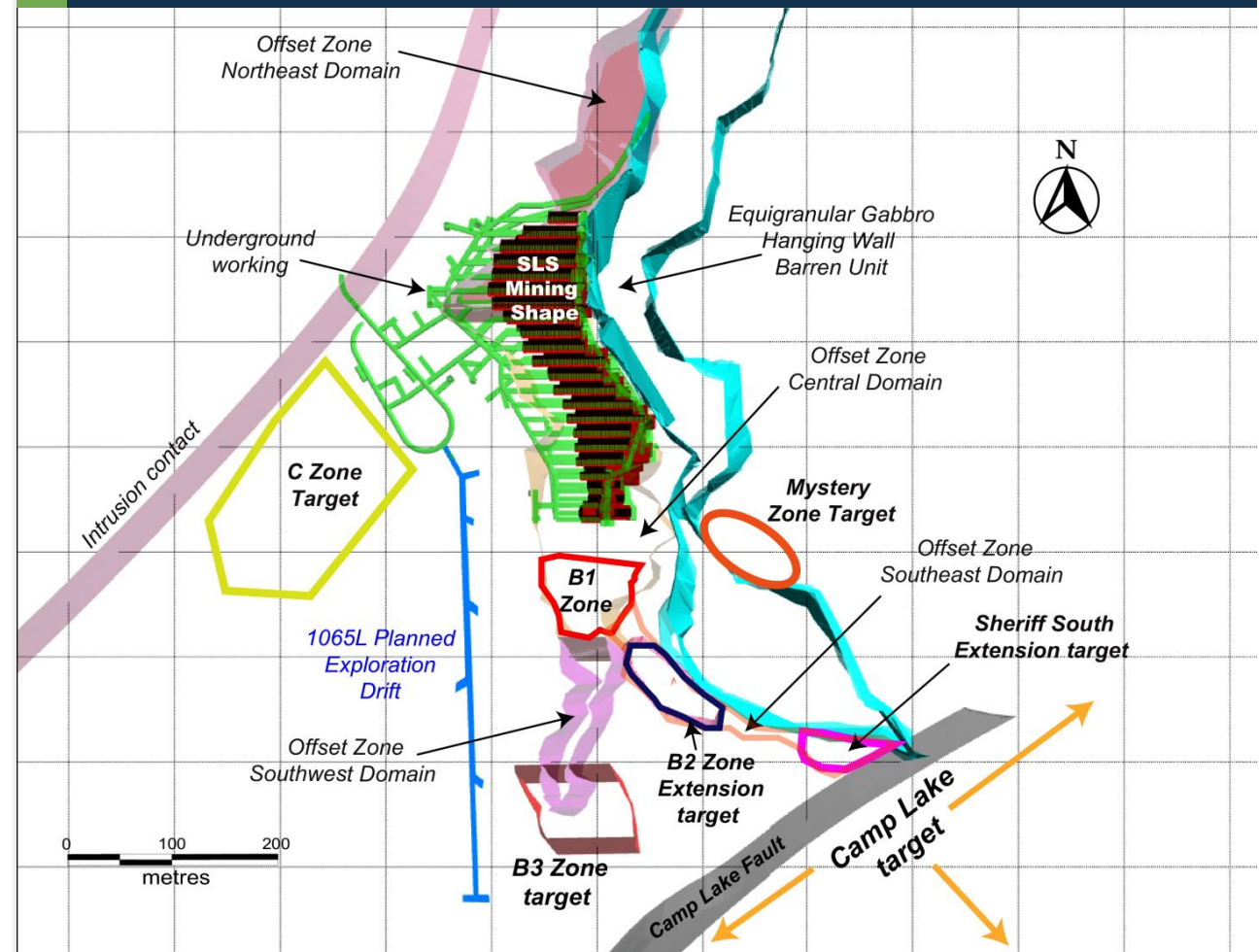
Underground targets currently active

Longitudinal section, looking east, of the LDI deposit showing the location of the major mineral zones and reserves.



**Adjacent to current underground operations,
Camp Lake has the potential to increase reserves at depth.**

Plan view map of the 1065 mining level showing current exploration targets



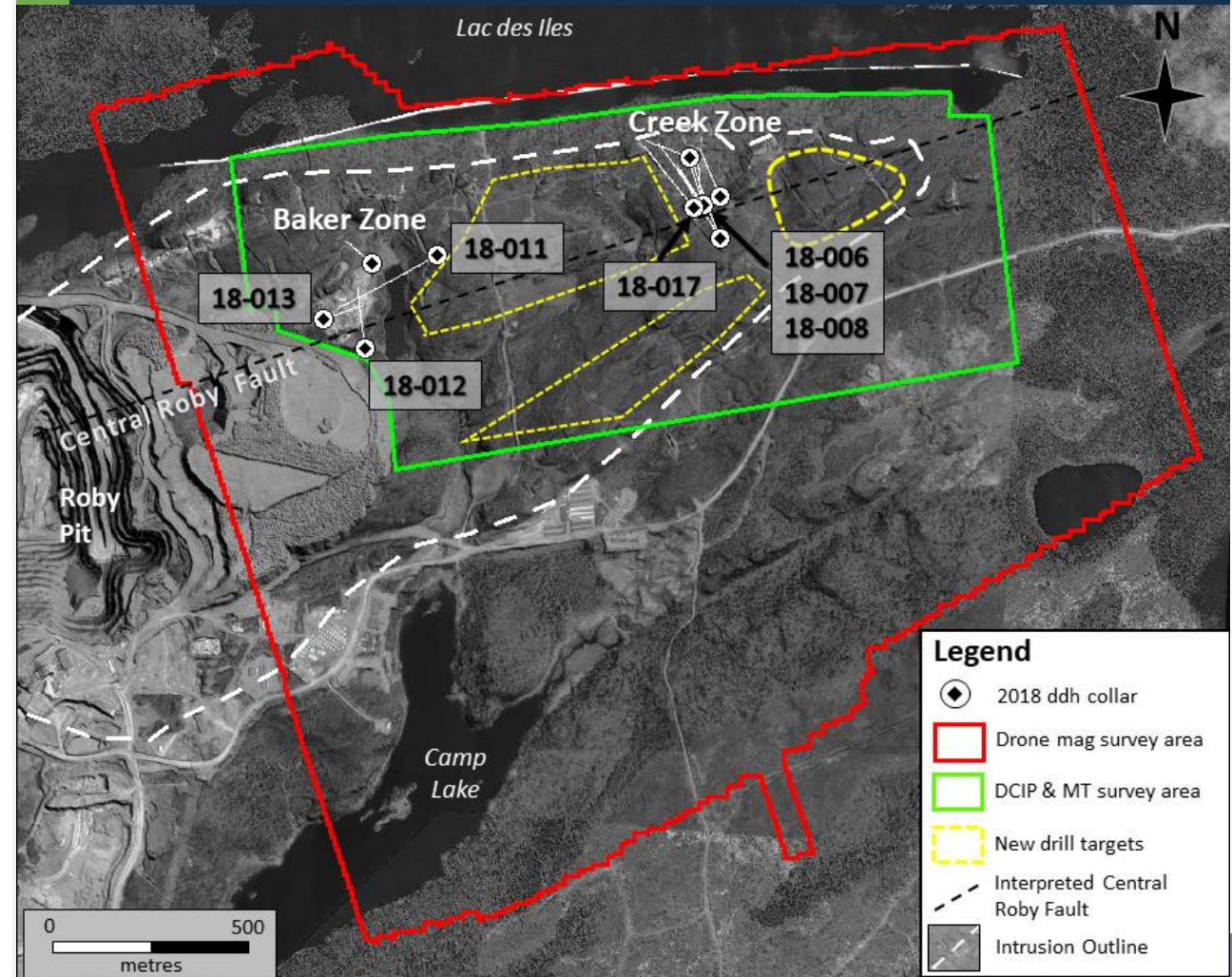
3

Significant Exploration Potential – Immediate Minesite Opportunities

Rank & Target	2018 Results	2019 Plan
1. Creek Zone	47m @ 2.36 g/t Pd including 13m @ 5.18 g/t Pd	Step-Out Drilling
2. Geophysical Targets	Identified from new surveys completed in Q3/Q4 2018	Validation Drilling
3. Baker Zone South	164m @ 1.37 g/t Pd including 11.4m @ 2.13 g/t Pd	Step-Out Drilling

**Potential for surface development at Creek Zone;
located less than 2 km from minesite.**

Plan view map of the east part of the Lac des Iles mine showing location of 2018 drill holes and geophysical surveys.



Significant Exploration Potential – Greenfield Portfolio

- Major geophysical campaign in 2019,
initial drilling in 2019 and 2020.**

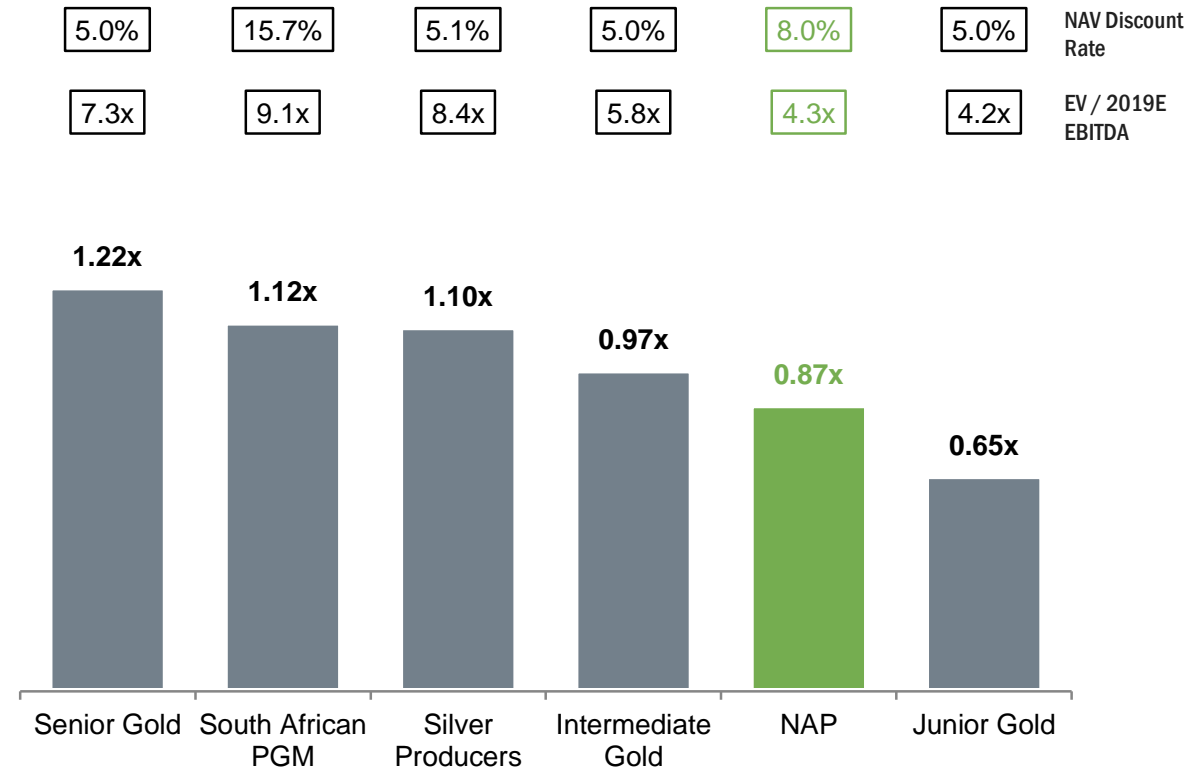
A map of the Lac des Îles Mine & Mill area. The map shows the mine location, Shebandowan Property, and Sunday Lake Project. A scale bar indicates 0 to 20 Kilometers. A star marks the mine location, and a blue arrow points to it from the label 'Lac des Îles Mine & Mill'. A blue oval highlights the 'Shebandowan Property'. A blue circle highlights the 'Sunday Lake Project'. A blue arrow points from the 'Sunday Lake Project' to the 'Lac des Îles Mine & Mill' area. A compass rose is located in the bottom right corner.

Attractive Valuation Versus Peers with Additional Upside Potential

NAV Buildup

Lac des Iles NPV <small>(8%) @ US\$1,250/oz Pd</small>	C\$1,108 mm
Net Cash (Debt)	(C\$37) mm
ITM Proceeds	C\$9 mm
Net Asset Value	C\$1,080 mm
Fully-Diluted ITM Shares Outstanding	60.3 mm
NAVPS	C\$17.90
Share Price (15-Feb-19)	C\$15.49
P / NAV	0.87x

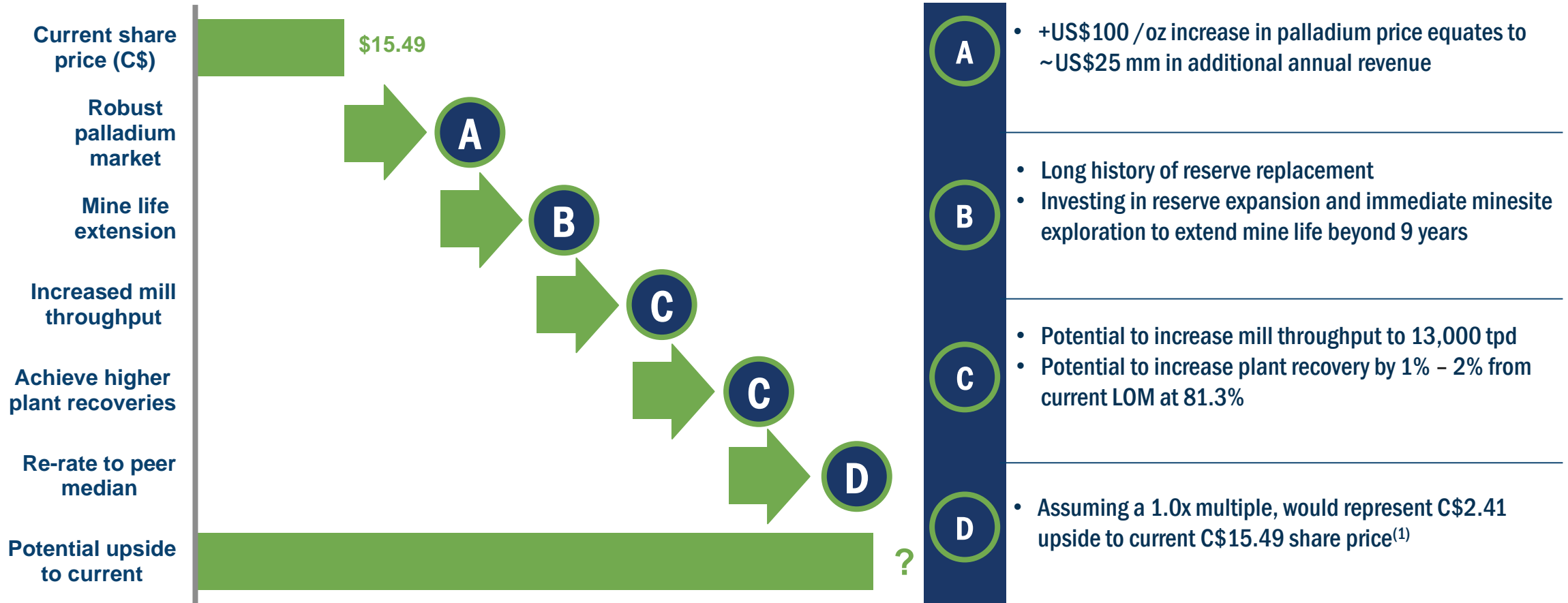
Median Trading Multiples of PGM and Precious Metals Producers



NAP is trades at a discount to its PGM and precious metals peers.

4

Attractive Valuation Versus Peers with Additional Upside Potential (Cont'd)



Opportunity to surface significant value.

Highly Experienced Management Team

MANAGEMENT



Jim Gallagher - President & CEO

- Jim Gallagher is a Professional Mining Engineer with over 35 years of experience in the mining industry.
- Mr. Gallagher joined NAP in 2013 as COO and was instrumental in an operational turnaround at the Lac des Iles site.
- He was appointed President and Chief Executive Officer in August of 2015.



Timothy Hill - VP, Finance & CFO

- Timothy Hill is a finance professional with 19 years of experience in the mining industry.
- Mr. Hill joined North American Palladium in 2015 and was appointed Vice President, Finance and Chief Financial Officer on February 1, 2016.



David Peck – VP, Exploration

- Dr. David Peck is a Professional Geoscientist with over 30 years of exploration and applied research experience specializing in magmatic Ni-Cu-PGE ore deposits.
- Prior to joining NAP, Dr. Peck was President and Co-founder of Revelation Geoscience Ltd., and spent several years as Global Nickel Commodity Leader at Anglo American plc.



Wayne Scott – VP, Human Resources

- Wayne Scott has over 30 years of experience in the Human Resources field.
- Mr. Scott has held various senior executive positions with his most recent experience being in the international base metals mining sector for the past 15 years.



Erin Satterthwaite – VP, Corporate Affairs & Communications

- Erin Satterthwaite has an 18-year track record in corporate affairs and community investment.
- Ms. Satterthwaite joined North American Palladium in 2019 to enhance awareness of the company and palladium itself within the industry, investor community and broader public.

BOARD

Peter Gordon - Chairman

David Nowak - Director

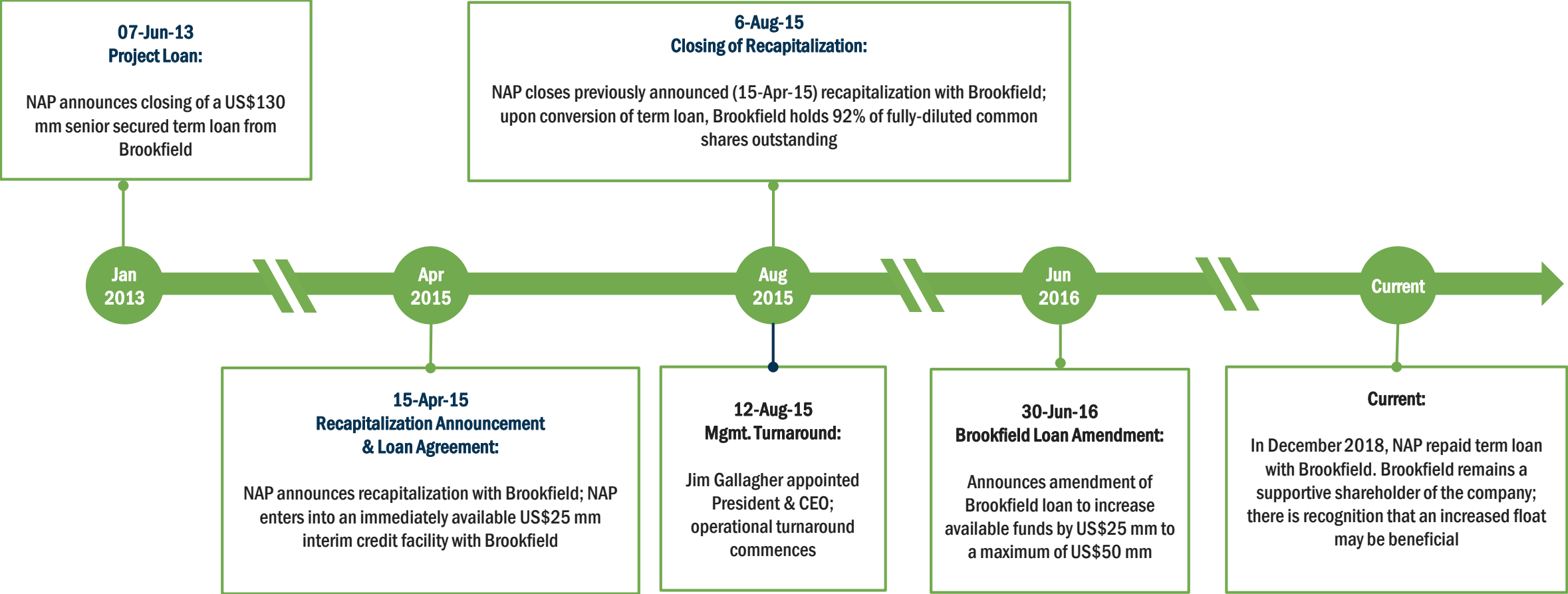
John Jentz – Independent Director

Dean Chambers – Independent Director

Gregory Fauquier – Independent Director

RELATIONSHIP WITH BROOKFIELD CAPITAL PARTNERS

Brookfield equity ownership: ~91%



Head Office

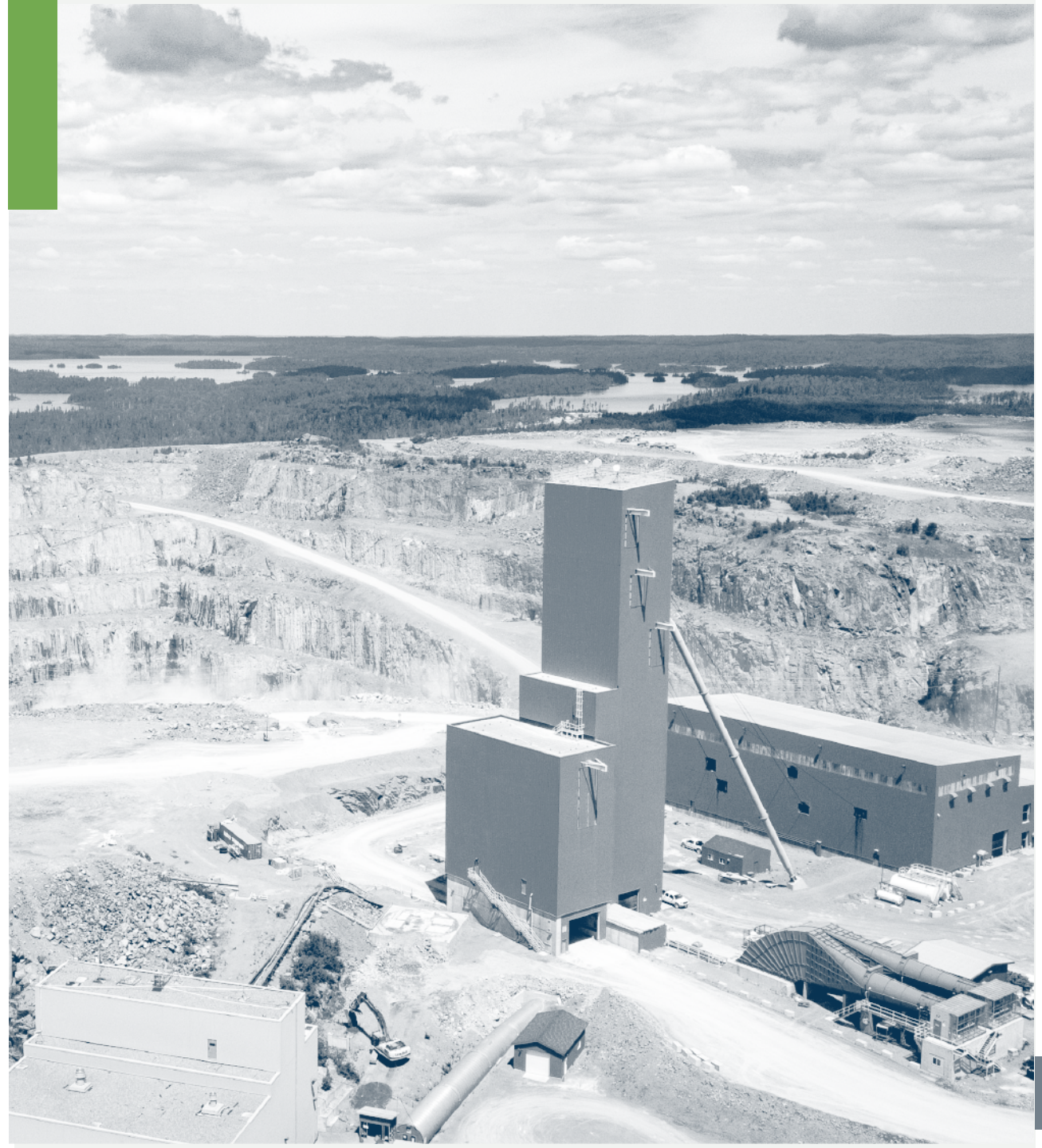
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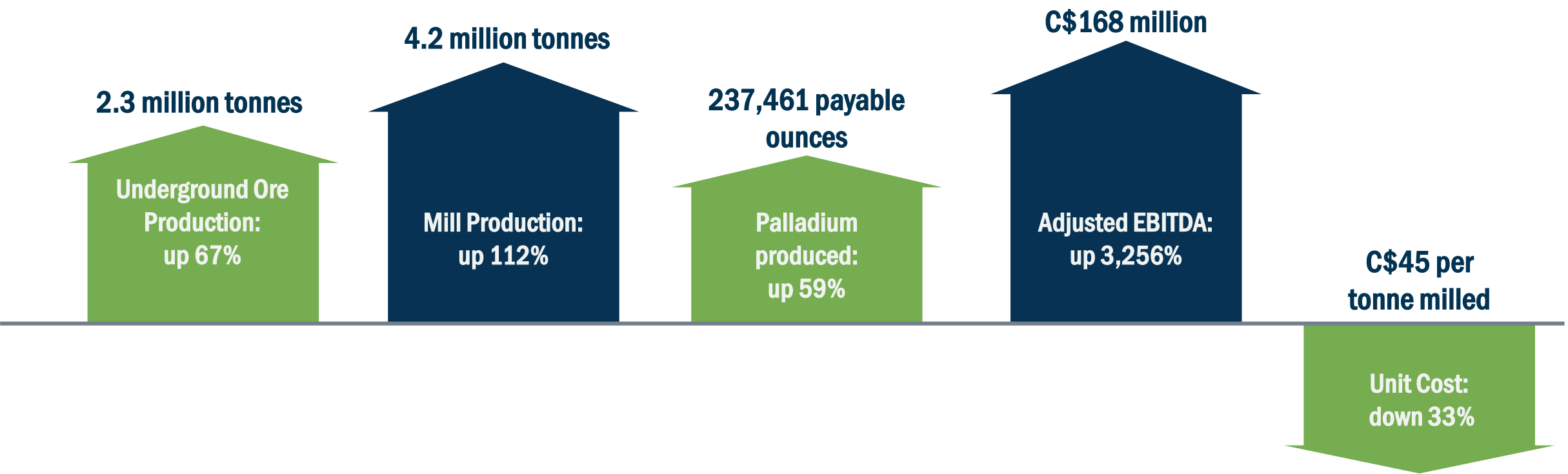


APPENDIX



STRONG FREE CASH FLOW PROFILE

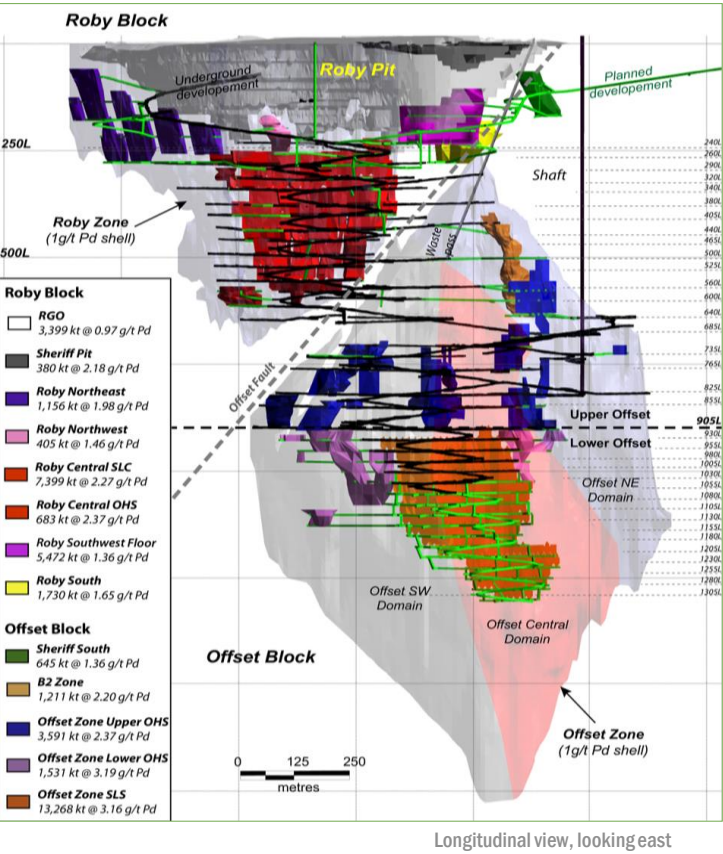
Momentum built over 2017 and 2018 has resulted in significant improvements to many metrics versus 2016.



Seven consecutive quarters of positive earnings;
2018 marked highest palladium production in more than a decade.

ATTRACTIVE VALUATION BASED ON RECENT FEASIBILITY STUDY

LDI Reserves by Source



Feasibility Study delivers 3 Moz of reserves – 75% increase versus 2017

Total Ore Reserves	40.9 Mt
Palladium Reserve Grade	2.31 g/t
Palladium Reserves (Contained)	3.038 M oz
Average ¹ Mill Throughput	12,238 tpd
Average ¹ Payable Palladium Production	255,000 oz
Mine Life	9 years
Average ¹ All-Inclusive Sustaining Costs ^{2,3}	US\$622 / oz
Average Annual EBITDA @ US\$1,040 / oz Pd ³	C\$167 mm
After-tax NPV _(8%) @ US\$1,040 / oz Pd	C\$637 mm
After-tax NPV _(8%) @ US\$1,250 / oz Pd	C\$1,108 mm

Palladium Price and FX Sensitivity to After-tax NPV (C\$ mm)

		USD:CAD Exchange Rate				
		1.15	1.20	1.25	1.30	1.35
Palladium Price (US\$/oz)	\$850	\$122	\$197	\$271	\$342	\$413
	\$950	\$336	\$416	\$481	\$543	\$604
	\$1,040	\$501	\$569	\$637	\$702	\$757
	\$1,150	\$676	\$740	\$801	\$869	\$938
	\$1,250	\$808	\$884	\$958	\$1,033	\$1,108

(¹Based on full production years 2019-2026. ²Net of by-product revenue. ³Non-IFRS Measure.)

MINE RESERVES

Feasibility Study Delivers 3 Million Ounce Reserve – a 75% Increase Compared to 2017 and a 13% Increase in Total Reserves + Resources

Offset Block

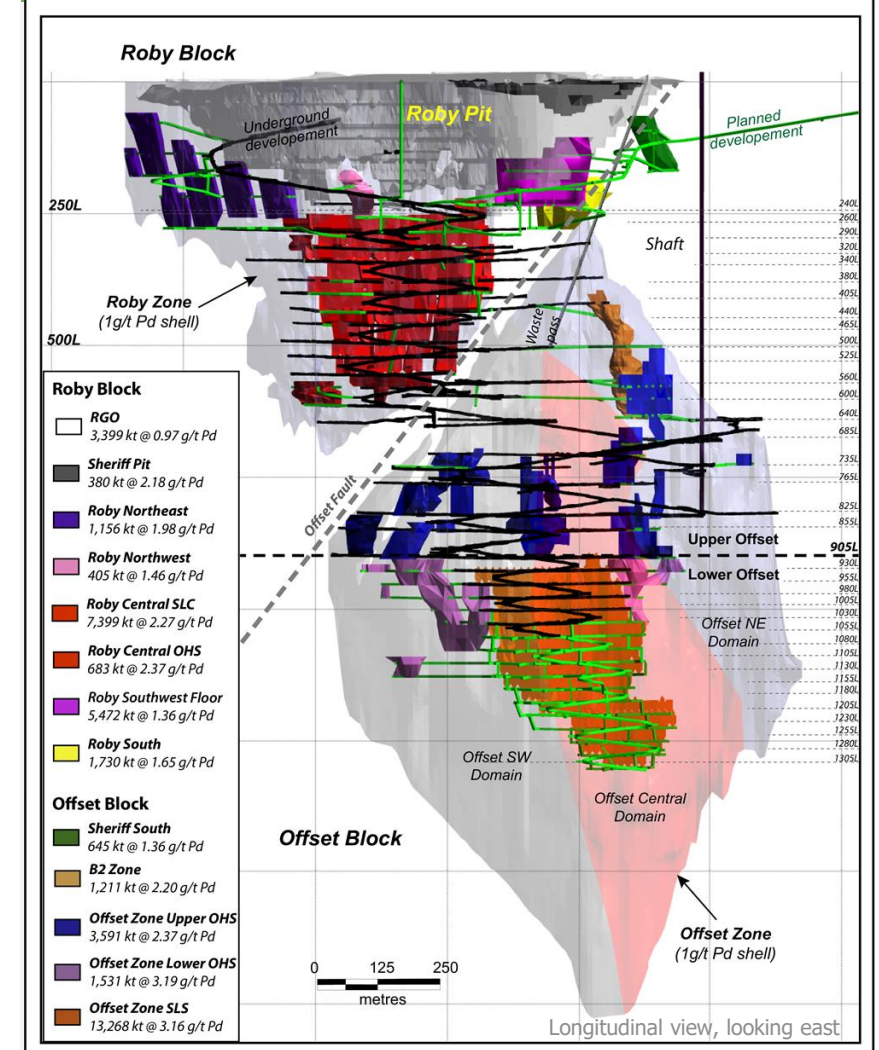
- Continued focus on sub-level shrinkage mining of the best grade-thickness ore.
- Supplemental feed from B2 Zone (remains open) and Sheriff South.

Roby Block

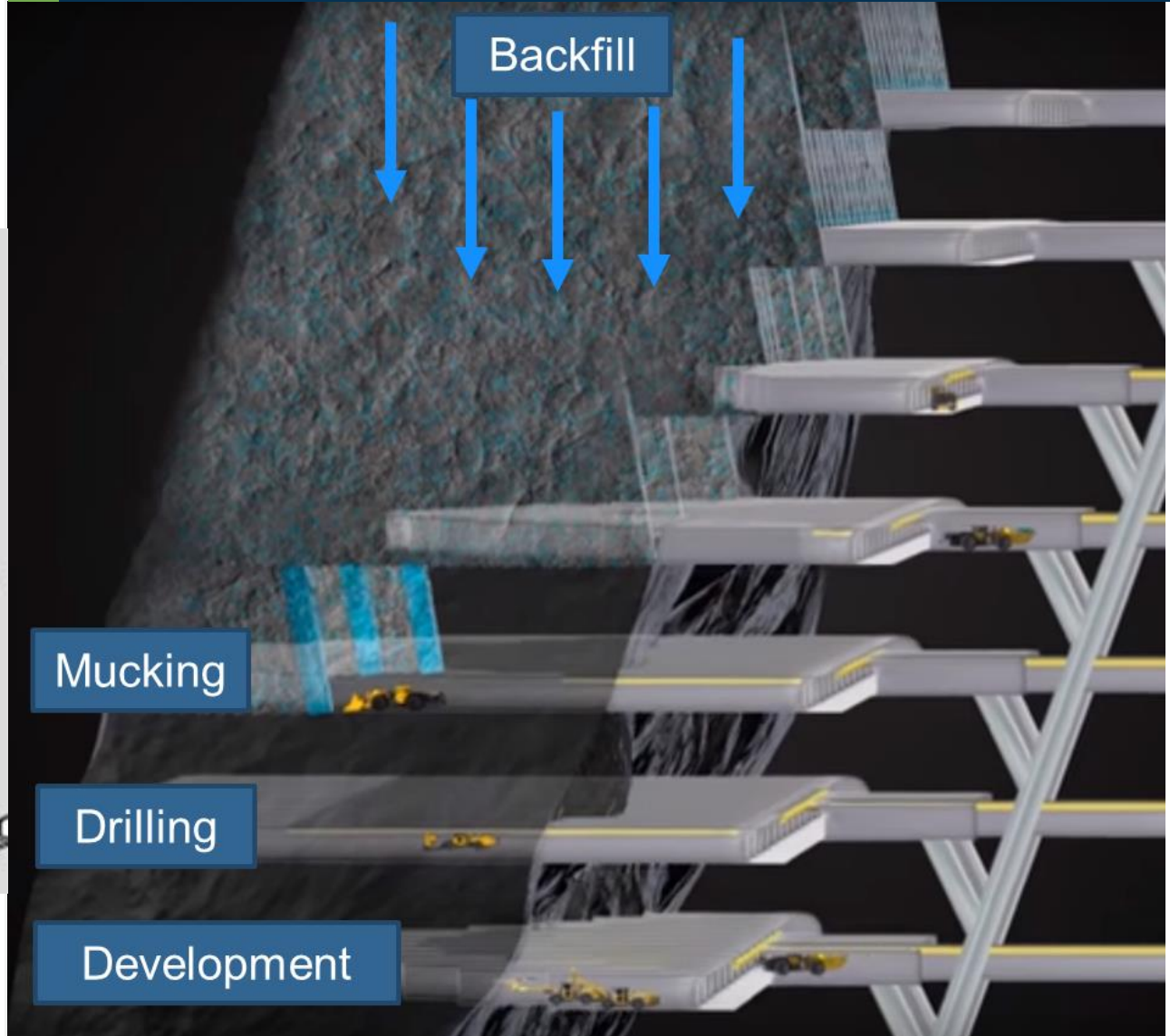
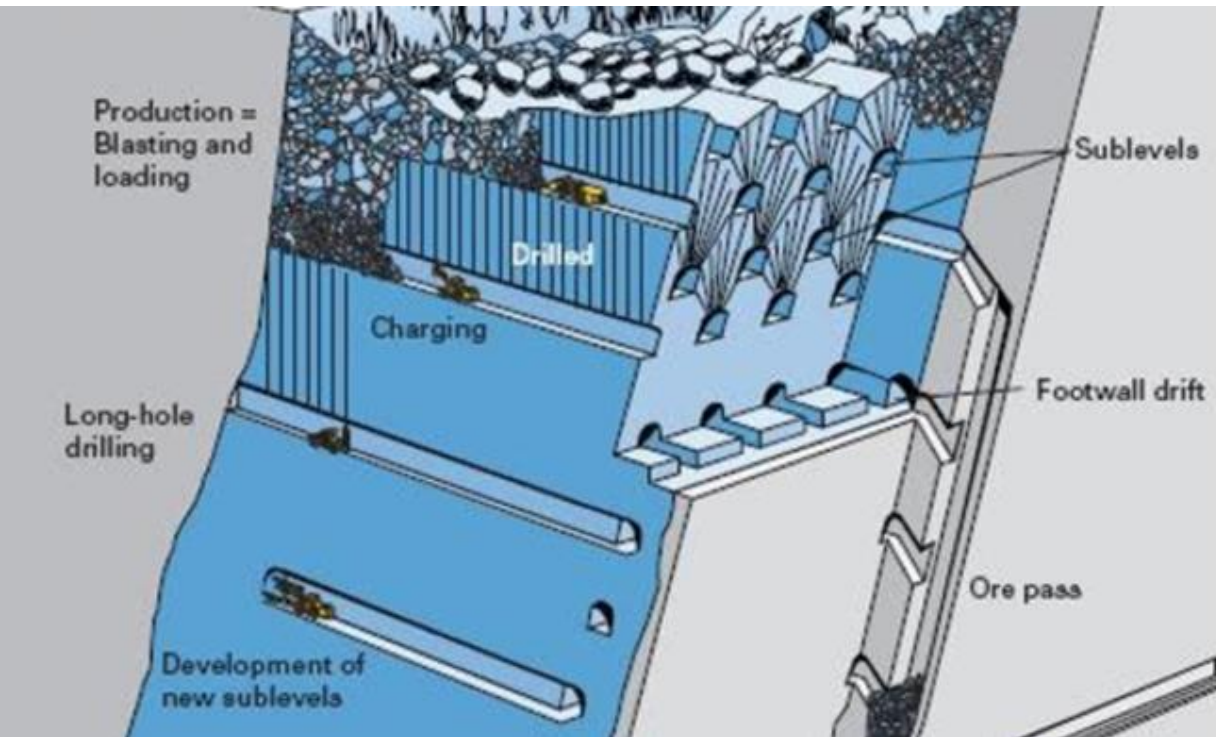
- New mass mining approach will extract most of the better-grade palladium resources below and adjacent to the Roby Pit.
- Augmented by new production from the extremities of the Roby deposit.

Reserves	Category	Tonnes (000's)	Pd (g/t)	Pt (g/t)	Au (g/t)	Cu (%)	Ni (%)	Contained Pd Ounces (000's)
Offset Underground	Proven	3,089	2.30	0.21	0.16	0.05	0.07	228
	Probable	17,159	3.01	0.24	0.24	0.08	0.10	1,661
Roby Underground	Proven	2,279	1.76	0.19	0.12	0.04	0.04	128
	Probable	14,569	1.89	0.19	0.13	0.05	0.05	886
Surface	Proven	300	1.94	0.16	0.10	0.05	0.06	18
	Probable	3,479	1.02	0.12	0.08	0.03	0.06	114
TOTAL RESERVE	2P	40,877	2.31	0.21	0.17	0.06	0.07	3,038

LDI Reserves by Source



SUB-LEVEL SHRINKAGE (SLS) MINING METHOD



ORE SOURCE AND GRADE

Production Profile

