







**METALS FOR CLEAN AIR** 

**Corporate Presentation – January 15, 2020** 

### **Forward Looking Statements**

This presentation contains certain forward-looking statements that may involve a number of risks and uncertainties. Actual events or results could differ materially from Palladium One Mining Inc's (the "Company") expectations and projections. The TSXV has neither approved nor disapproved the information contained in this presentation. Except for statements of historical fact relating to the Company, certain information contained herein constitutes "forward-looking statements". Forward-looking statements are frequently characterized by words such as "plan", "expect", "project", "could", "intend", "believe", "anticipate" and other similar words, or statements that certain events or conditions "may" or "will" occur. Forward-looking statements are based on the opinions and estimates of management at the date the statements are made and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. These factors include the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drilling results and other geological data, fluctuating metal prices, the possibility of project cost overruns or unanticipated costs and expenses, uncertainties relating to the availability and costs of financing needed in the future and other factors. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.

Data and technical information in this document is extracted from the NI 43-101 technical report entitled 'Technical Report for the Kaukua Deposit, Läntinen Koillismaa Project, Finland "prepared for Palladium One Mining Inc.', written by Mining Plus, dated September 2019 and historical data and technical information is extracted from the September 19, 2013 NI43-101 technical report prepared for Finore Mining Inc for the Läntinen Koillismaa Project, Finland, also written by Mining Plus. Historical resources have not been verified by the Company and are not current, therefore reliance should not be placed on such historical information.

Mr. Neil Pettigrew, P.Geo,. is the Qualified Person as defined by National Instrument 43-101, is the Vice President of Exploration and a director of the Company and has reviewed and approved the technical information in this document.

## A New Exploration & Development Company







# "Advancing a large-tonnage PGE-Cu-Ni Resource to underpin a long-term open pit mining operation"

Lantinen Koillismaa ("LK") PGE-Cu-Ni project, located in north-central Finland Tyko Nickel project in Ontario, Canada.

#### September 2019 – Open Pit Mineral Resource – Kaukua Zone, LK Project

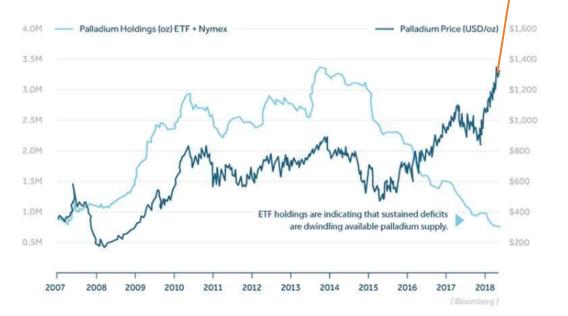
- 635,000 Pd\_Eq Indicated ounces (1.80 g/t Pd\_Eq, 11 million tonnes)
- 526,000 Pd\_Eq Inferred ounces (1.50 g/t Pd\_Eq, 11 million tonnes)

Market Capitalization	\$18.3M	Outstanding Options	3.9M @ avg. \$0.10 4.9M @ \$0.15				
Price per share	\$0.175	Outstanding Warrants	1.7M @ \$0.20 (expiry Mar 2020) 15.8M @ \$0.15 (expiry Dec 2020) 17.4M @ \$0.12 (expiry May 2021)				
12 Mo Trading	\$0.05 - \$0.21		31.6M @ \$0.10 (expiry Dec 2021)*  *Subject to accelerated expiry				
Proforma Cash	<b>\$4.3M</b> (9/30/19 + 12/02/19 private placement)	Outstanding Shares	107.5M				
10%+ Shareholders:		PDM.V 0.17	yahoo/finance				
Eric Sprott	19.4% non-diluted						
		\\					

### **Palladium Market and Environmental Benefits**

### Cleaner Air, Reduced Hydrocarbons - Nitrogen Oxides and Carbon Monoxide

- Critical in reducing harmful emissions from gas powered vehicles
- Increased environmental standard = increased loading per vehicle = increased demand
- Palladium's unique properties make it well suited to meet stricter emission standards
- Palladium is more durable and longer lasting
- Real Driving Emissions (RDE) testing shows palladium performs much better than platinum
- Dieselgate has caused diesel to be phased out thus increasing demand



#### Limited scope to meet increasing demand

- Mining sources:
  - 10% primary production (only 2 mines)
  - 41% platinum mining bi-product
  - 49% nickel mining bi-product
- Supply:

US\$2,150

(Jan 2020)

- 6.9 Moz mine supply (2018)
- 79% from higher-risk jurisdictions (Russia & South Africa)
  - Regime, Unions, strikes, special interests, power interruptions, regulatory framework, macroinstability
- 3.2 Moz recycling (2018)
- Persistent deficit since 2012, expected to continue......
- Demand:
  - 86% consumed in auto-catalysts
- Limited scope for additional supply
- ✓ Palladium is more valuable than gold!

### **EV Supply Crunch – Palladium & Nickel**

- By 2025, hybrids will represent over 25 million vehicles, close to a quarter of all vehicle sales, compared to just 3% in 2016. (JP Morgan and Chase)
- Sales of passenger EVs, including hybrid EVs (HEV), jumped more than 24% last year
  - HEVs over 60% of EV sales. (Wood Mackenzie- July 2019)
- Unless battery technology is developed, tested, commercialized, manufactured and integrated into EVs and their supply chains, it will be impossible for many EV targets and ICE bans to be achieved.
  - "This will pose issues for current EV adoption rate projections" (Wood Mackenzie- July 2019)
- Growing global demand for batteries that power electric vehicles (EVs) and high-tech devices
  - supply crunch of lithium, cobalt and nickel by mid-2020's (Wood Mackenzie)
- Roskill's analysts expect a "double-boost" for nickel in the battery industry.
- Palladium production is expected to have trailed consumption by >800,000 ounces in 2019.







## **Management & Directors**

Derrick Weyrauch, CPA CA President & CEO, Director	<ul> <li>29 years executive and non-executive director experience (TSX/NYSE/TSXV)</li> <li>M&amp;A strategy development, execution and post transaction integration background</li> <li>Experience includes Cinram International, Temex Resources Corp, Jaguar Mining Inc., Banro Corp and Eco Oro Minerals Corp.</li> <li>Founder and director of Magna Mining Corp, and former CFO of Andina Minerals Ltd (ADM:TSXV) prior to its sales to Hochchilds Plc (HOC: LON).</li> </ul>
Dr. Peter C. Lightfoot  Director	<ul> <li>30 years of industry experience, globally recognized expert on magmatic nickel-cobalt-copper and precious metal ore deposits.</li> <li>Former Principle Geologist – Nickel Sulphide Global Project Generation and Chief Geologist – Base Metals at Inco/Vale, was responsible for Voisey's Bay, Sudbury and Carajas.</li> <li>Currently a consultant to the global mining industry with emphasis on nickel and precious metals</li> </ul>
Lawrence Roulston  Director	<ul> <li>40 years experience in the mining industry</li> <li>Investment management/analyst experience and former newsletter editor</li> <li>Started with a unit of Teck, then worked as an executive with mid-sized and junior mining sector companies</li> </ul>
Neil Pettigrew, M.Sc., P.Geo Vice President Exploration, Director	<ul> <li>Over 20 years of experience in the mineral exploration industry</li> <li>B.Sc. (hons.) from the University of New Brunswick (1999) and M.Sc. from the University of Ottawa (2004)</li> <li>Expertise in Ni-Cu-PGE, gold, VMS, and geochemistry and structural geology</li> <li>Founding partner of Fladgate Exploration Consulting Corporation and previously Senior Precambrian Geoscientist with the Ontario Geological Survey.</li> </ul>

### LK Project: North Central Finland



### LÄNTINEN KOILLISMAA ("LK")

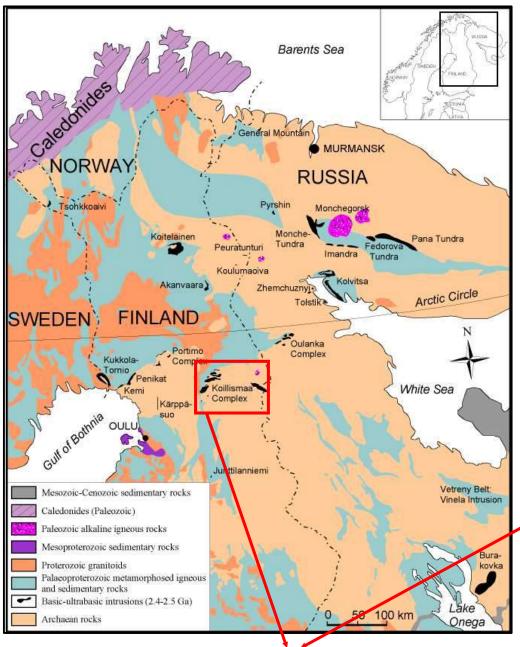
- 100% interest.
- Kaukua, Mortolampi and Lipeavarra zones (15km of strike length) subject to 2% NSR, option to buyback 1% for €1M.
- Remaining zones or 23 km of strike length, royalty free upon closing of announced buy back.
- ~38 km's (3,674 hectares) of favourable basal contact.
- Independent NI43-101 resource estimate completed September 2019 on the Kaukua zone.
- <4 km's has been systematically drilled.</p>
- Excellent Infrastructure in and around the project.
- Low cost open pit mining potential.

### Finland, Local Resources and Infrastructure

- First-world geological information, third-world exploration opportunity
- ✓ Politically Safe
- Strong mining history
- Road access
  - ✓ No helicopters
- Water
- HV Power on property
- Outside of "Natura 2000" protected lands
- Rail transport
- Labour availability
- Skilled Trades / Workshops
- Major Cu and Ni smelters in Finland and Sweden

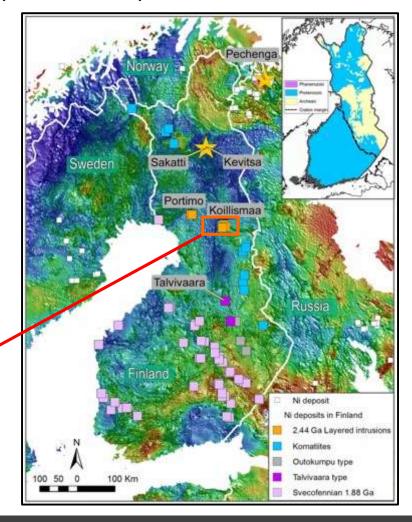
- Finland top 10 Fraser Institute ranking
- European Union member country
- Major city with population of 200,000 only 190 km from project
- Smaller cities are located 160 and 90 km from project
- Existing, municipality, maintained, all-weather road to project
- Water is plentiful around the project
- 40 km north of existing rail network
- High Voltage power line crosses the project
- Several local mining specialized workshops

### Finland: Elephant Country Geology



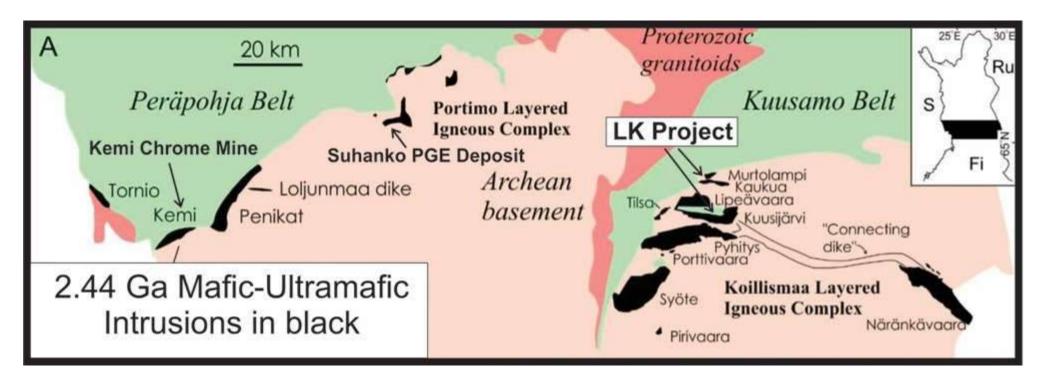
Koillismaa Complex including the LK Project

- The Fennoscandia shield hosts a wealth of Cu-Ni-PGE deposits
- Includes world class deposits such as Pechenga nickel and Portimo (Suhanko) palladium deposits



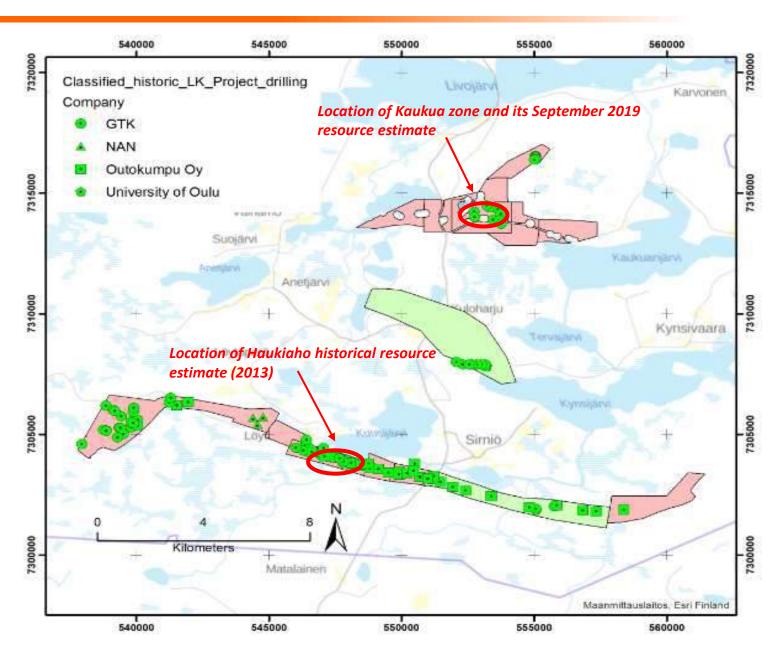
### LK Project: A Rift Related Pd-Rich Deposit

- In the layered Koillismaa Complex, interpreted to have been emplaced in a failed continental rift type environment.
- Koillisma is part of a series of voluminous early Proterozoic (2.44Ga) rift related maficultramafic intrusions which includes:
  - The Portimo Complex which host the world class Suhanko (Arctic Platinum) deposit located <u>90 km northwest</u> of the LK Project
  - Suhanko hosts a world-class, SAMREC code compliant resource of 5.4 million (M&I) and 4.4 million (Inf.) ounces of palladium



### LK Project: Historic Reconnaissance Drilling 1963-2005

- ✓ Mafic-ultramafic intrusion
- √ ~38 km basal contact, 3,800 ha (permit renewals / applications / reservations)
- ✓ Widely spaced, shallow historic drill database (excludes drilling from 2007-2012)
- ✓ Proven mineralization.
- ✓ All drill core available for inspection



LK Project property: Red polygons represent exploration permits/renewals, green polygons represent approved reservation decision applications

## Pit Constrained Resource Estimate – September 2019

- 635,600 Pd\_Eq ounces of Indicated Resources (1.80 g/t Pd\_Eq, 11 million tonnes)
- **525,800 Pd\_Eq ounces** of Inferred Resources (1.50 g/t Pd\_Eq, 11 million tonnes)
- Whittle pit optimization assumptions:

Element	Units	Price Assumption (US\$)			
Palladium	per oz	\$1,100			
Platinum	per oz	\$950			
Gold	per oz	\$1,300			
Copper	per lbs	\$3.00			
Nickel	per lbs	\$7.00			

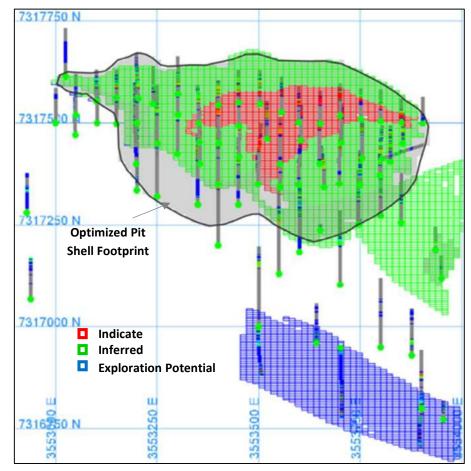
Whittle Inputs	Value			
Mining Recovery	95%			
Mining Dilution	5%			
Currency	USD			
Royalties	1% NSR			
Processing cost (incl. G&A)	\$9.75/t			
Mining cost	\$2.20/t			
Cut-off grade Pd	0.3			
Overall Wall Angle	54.96			

- ✓ Favourable 3:1 waste:ore ratio
- Low cost open pit mining potential

### Mineral Resource Estimate for the Kaukua Deposit - September 2019 reported at a 0.3 g/t Pd cut-off

Classification	Tonnes (kt)	Pd g/t	Pt g/t	Au g/t	PGE (Pd+Pt+Au) g/t	Ni %	Cu %	Pd_Eq⁵		
								g/t	Oz	
Indicated	10,985	0.81	0.27	0.09	1.17	0.09	0.15	1.80	635,600	
Inferred	10,875	0.64	0.20	0.08	0.92	0.08	0.13	1.50	525,800	

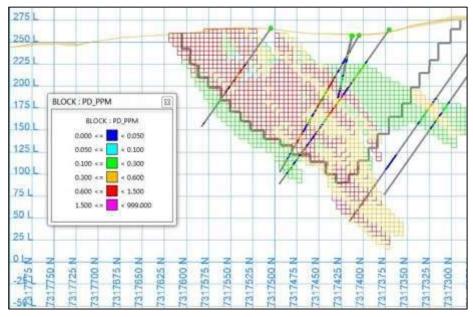
## LK Project: Kaukua Resource Block Model (2019)



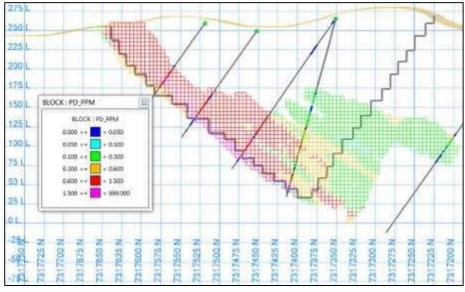
Kaukua Resource plan view showing block and drill hole grades for Pd.

#### 2019 Mineral Resource Estimate

- Pit Constrained
- 635,000 Pd\_Eq ounces Indicated
- 526,000 Pd\_Eq ounces Inferred



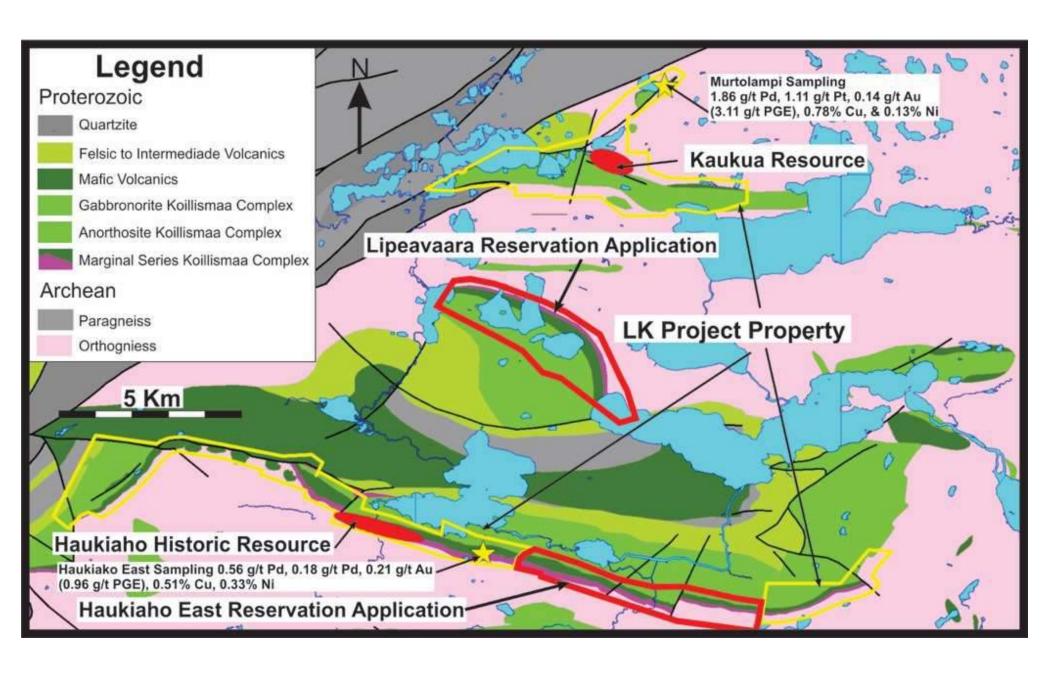
Cross Section at 3,553,810 mE showing block model and drill hole grades for Pd.



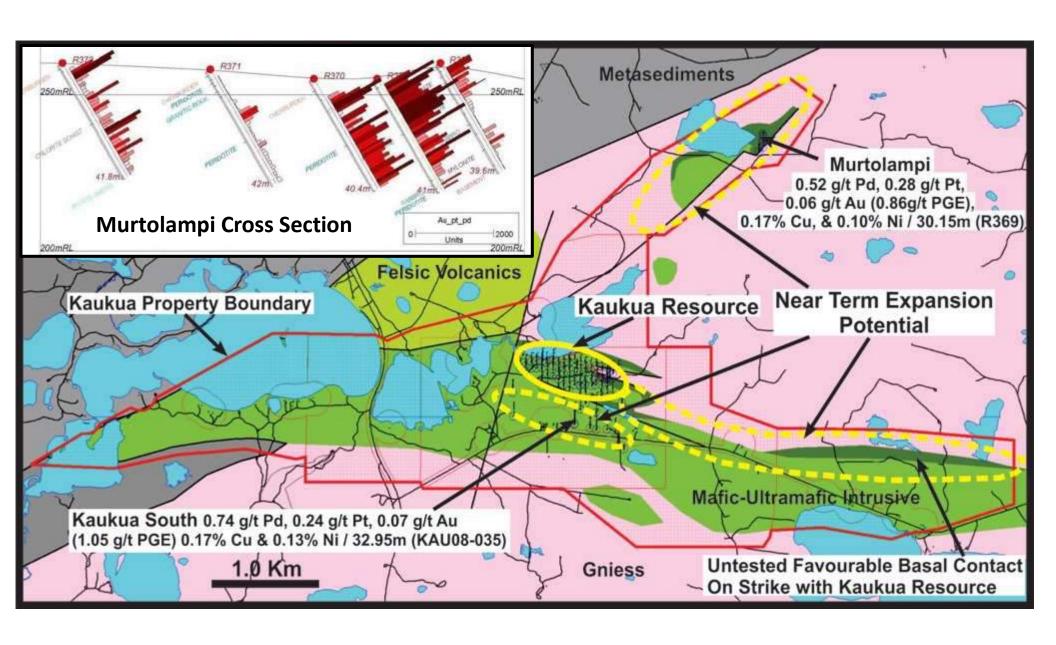
Cross Section at 3,553,610 mE showing block model and drill hole grades for Pd.

See appendix for additional details

## **LK Project: Property Boundary**



### LK Project: Kaukua Near-Term Expansion Potential



### LK Project 2020 Exploration: Phase 1 Program

#### Goals

- Priority 1: Historic Haukiaho Deposit
  - Resource expansion and upgrade to NI43-101 resource
  - Add another ~1 million Pd\_Eq ounces
- Priority 2: Kaukua Deposit
  - Upgrade near surface inferred resources to indicated, trace high grade shoot to depth
- Priority 3: Find the next >1 million ounce Pd\_Eq deposit
  - Murtolampi (GTK DDH follow up)
  - Tilsa (GTK DDH follow up)
  - Kaukua West (grass roots)
  - Kaukua East (grass roots)
  - Feeder (grass roots)

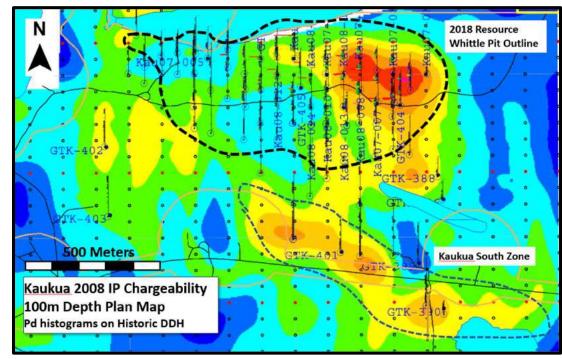
#### How?

- 75-line kilometer of 3D IP geophysics
- Up to 5,000 meters of diamond drilling

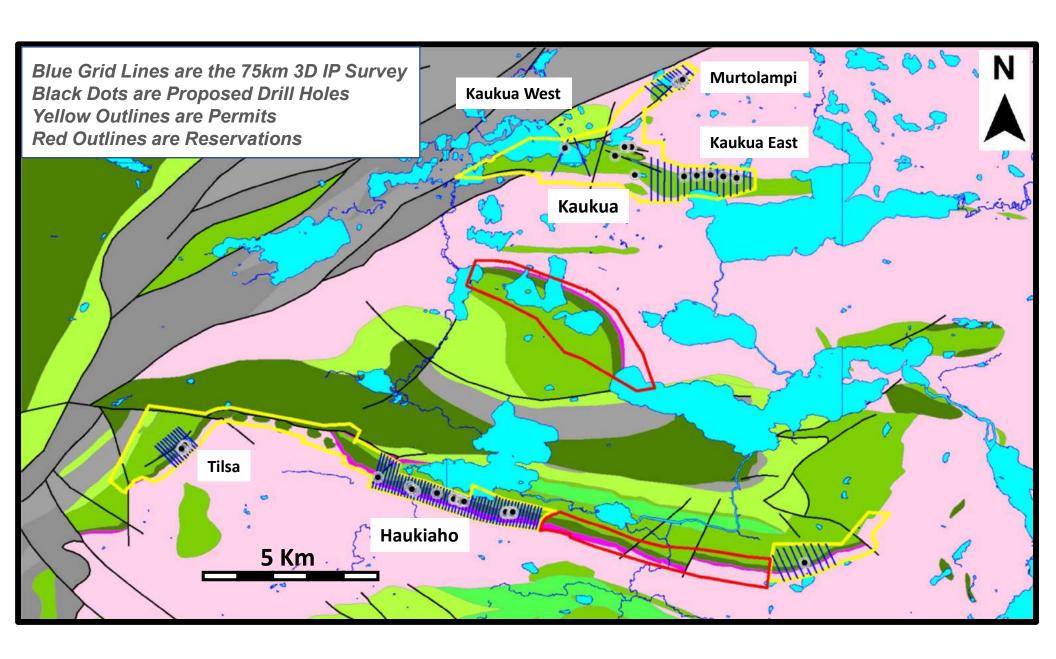
#### **Proposed Drilling**

- Up to 38 drill holes
- Range from 50 to 300m depth
- Average depth is 130m
- 50/50 split between holes expanding known resources and targeting new areas
- 17 holes (2000m) targeting historic Haukiaho deposit

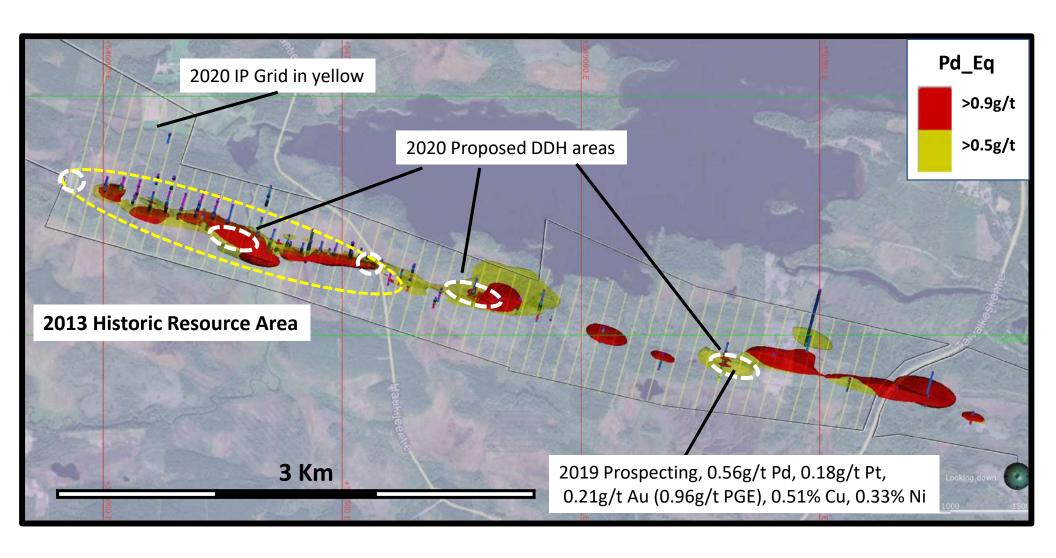




### 2020 Proposed IP & DDH Plan



### Haukiaho 2020 Proposed IP & DDH Aerial Plan View

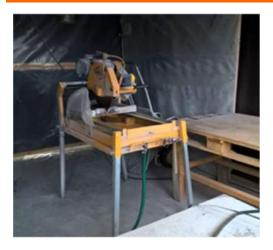


#### 2013 Haukiaho Deposit Historic Resource Estimate<sup>1</sup> at a 0.1 g/t Pd cut-off grade

Category	Tonnage Mt	Pd g/t	Pd Koz	Pt g/t	Pt Koz	Au g/t	Au Koz	PGE (Pd+Pt +Au) g/t	PGE (Pd+Pt +Au) Moz	Cu %	Cu Mlb	Ni %	Ni Mlb
Inferred	23.2	0.31	231	0.12	90	0.10	75	0.53	395	0.21	107	0.14	72

<sup>\*</sup> Historical resources have not been verified by the Company and are not current, therefore reliance should not be placed on such historical information

### **Well Positioned**



#### LACK OF PALLADIUM INVESTMENT ALTERNATIVES

- Very few advanced exploration Palladium projects
- Compelling valuation proposition before exploration upside

#### SIGNIFICANT SCOPE TO INCREASE RESOURCE

- Systematic conventional exploration, proven mineralization
- Elephant country geology



#### **NEW TEAM**

Brings exploration and capital markets experience to unlock value for shareholders

#### FINI AND ADVANTAGE

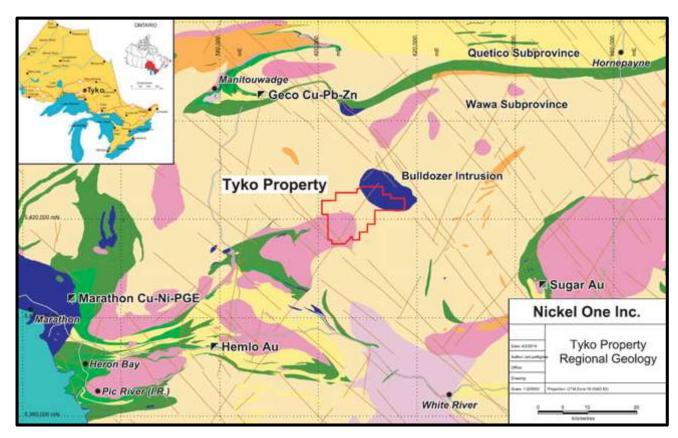
- Superior politically safe jurisdiction (Fraser Institute)
- Low operating costs compared to North America
- 3rd largest supplier of platinum & palladium
- Excellent transportation infrastructure
- Strong mining culture (e.g. Glencore, Agnico, Anglo, First Quantum)
- History of Cu-Ni-PGE Mining
- Excellent Geological database
- Relatively unexplored, only opened to private investment in 1990s
- Proximity to major smelters in Finland and Sweden



### Tyko Nickel Property: Marathon Ontario, Canada

The Tyko Property covers an Archean aged mafic-ultramafic intrusion located in the mining friendly province of Ontario, Canada.

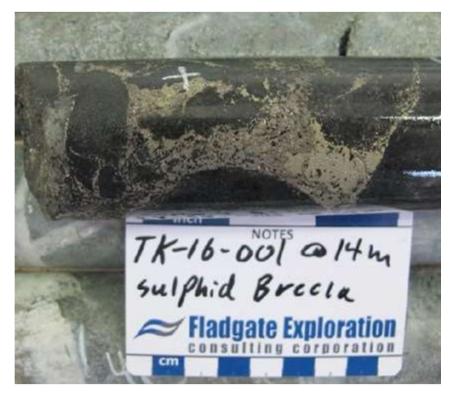
- Project is located 55 km northeast of the <u>Marathon deposit</u> which hosts a M& I resource of:
  - 3.0 million ounces of Pd @
    0.78g/t, 0.9 million ounces of Pt
    @ 0.23g/t and 618 million lb of Cu
    @ 0.24%
- Tyko is hosted by metamorphosed pyroxenite which has been intruded by later granitoid rocks
- Abundant rip-up clasts indicative of an active feeder-type system.
- Nickel-rich with an average Ni:Cu ratio
   of ~2:1 and a Pt:Pd ratio of ~1:1
- Sulphides consist typically disseminated to blebby with local patches of nettextured and semi-massive sulphide breccia.



### The sulphide tenor of the mineralization is very high.

- Total sulphur analysis completed indicated tenors in 100% sulphide that average 8.6% Ni, 4.6% Cu, and 3.3g/t PGE at the RJ Zone and 16.3% Ni, 8.70% Cu, and 12.8g/t PGE at the Tyko Zone.
- The high tenor of the sulphide suggests a high value flotation concentrate could be produced.
- This indicates that even a disseminated sulphide deposit could potentially be economic

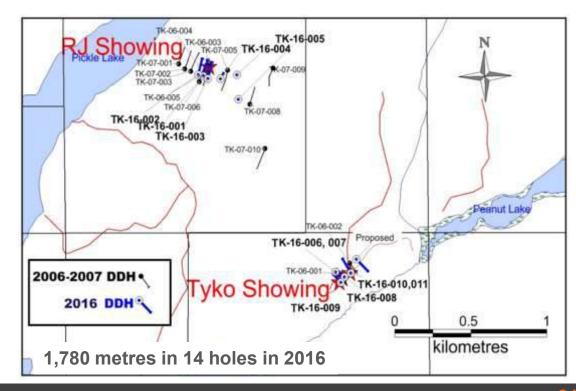
### Tyko Nickel Property: 2016 Drilling





#### **Highlights:**

- TK-16-002: 1.04% Ni, 0.23% Cu and 0.28 g/t PGE over 16.19m
- TK-16-010: 1.06% Ni, 0.35% Cu and 0.65 g/t PGE over 6.22m: Including 4.71% Ni, 0.82% Cu and 2.55 g/t PGE over 0.87m
- TK-16-011: 1.47% Ni, 0.49% Cu and 0.71 g/t PGE over 6.05m: Incuding 2.12% Ni, 0.48% Cu and 0.94 g/t PGE over 3.15m



### Tyko Nickel Property: Next Steps



- Down Hole EM Survey of 2016 Drill Holes
- Reconnaissance mapping and prospecting program
- Drilling program objectives:
  - Focus on expanding the RJ and Tyko Zones to depth
  - Target untested EM anomaly at Smoke Lake
  - Target untested mag and EM anomalies north and west of RJ zone
- New Airborne EM Survey covering entire Property



# **Appendix**

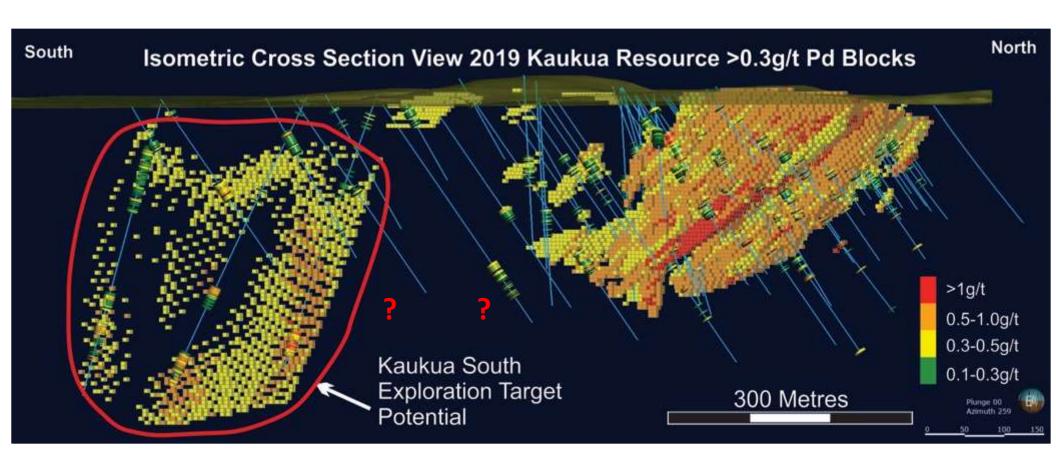
PALLADIUM ONE MINING INC.

TSX-V:PDM FRA: 7N11 23

### LK Project: Metallurgical Advantages

- Disseminated, Palladium-rich, high tenor sulphide
  - 100% sulphide tenor: ~6% Ni and ~10% Cu
- Preliminary Metallurgical work Indicates:
  - Saleable concentrate by bulk floatation
  - Final concentrate grading 11.4% Cu, 4.5% Ni, 7.8 g/t Pt, 36.3 g/t Pd, and 4.6 g/t Au
  - Final concentrate grades of 16-17% Cu+Ni have been obtained.
  - Unoptimized recoveries demonstrate scope for improvement:
    - Rougher: 95% Cu, 56% Ni, 86% Pd, 72% Pt and 85% Au
    - Cleaner: 91% Cu, 48% Ni, 73% Pd, 56% Pt and 78% Au
  - MgO can be maintained at 4% using floatation depressants
  - 1.6% final concentrate mass pull = low shipping cost to smelter

### LK Project: Kaukua Deposit - Expansion Potential



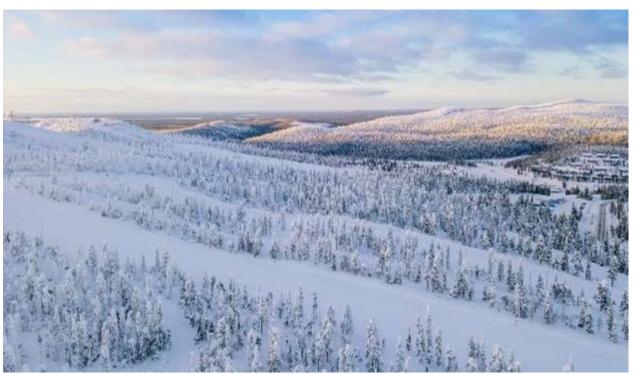
#### **Limited Drilling**

- Only ~1 km drilled of ~ 8 km strike potential
- Fault stacked basal unit has produced impressive thickness
   >100m in some holes.

#### Select Intercepts include:

- 65m @ 1.57 g/t PGE (1.04g/t Pd, 0.35g/t Pt, 0.18g/t Au, 0.18% Cu, 0.10% Ni hole KAU08-018)
- **31.02m** @ **2.30 g/t PGE** (1.59 g/t Pd, 0.66g/t Pt, 0.16g/t Au, 0.21% Cu, 0.12% Ni hole KAU08-013)
  - Inc. 5.50m @ 6.26 g/t PGE (4.29g/t Pd, 1.51g/t Pt, 0.46g/t Au, 0.53% Cu, 0.22% Ni)
- Potential for new parallel zone to the south (Kaukua South)









#### **Contact:**

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