

ERO COPPER

Geology & Exploration Teach-In

Cu (Ni-PGM) Magmatic Sulphide District

Curaçá Valley, Brazil

Details:

Toronto | Montreal | New York | London

January 21 - 25



CAUTION REGARDING FORWARD LOOKING INFORMATION AND STATEMENTS:

This presentation contains “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and “forward-looking information” within the meaning of applicable Canadian securities legislation (collectively, “forward-looking statements”). Forward-looking statements include statements that use forward-looking terminology such as “may”, “could”, “would”, “will”, “should”, “intend”, “target”, “plan”, “expect”, “budget”, “estimate”, “forecast”, “schedule”, “anticipate”, “believe”, “continue”, “potential”, “view” or the negative or grammatical variation thereof or other variations thereof or comparable terminology. Forward-looking statements include, but are not limited to, statements with respect to the management’s assessment of any planned debt restructuring, Mineral Resource and Mineral Reserve estimates, the capital and operating cost estimates and the economic analyses (including cash flow projections) for the Vale do Curaçá property and the Boa Esperança property, future financial or operating performance and condition of the Company and its business, operations and properties, plans for the operation of MCSA, the benefit of cost reduction initiatives, proposed benefit of recovery optimization projects, the continued development of the Vermelhos Mine and/or the Boa Esperança project, the development of potential mineral resources, expansion of production through the Caraiba Mill, future exploration potential, usefulness of the airborne EM survey, conversion of Mineral Resources and any future exploration plans including further delineation of near-mine and district exploration targets (including the Pilar West Limb and the Vermelhos East Zone).

Forward-looking statements are not a guarantee of future performance and are based upon a number of estimates and assumptions of management in light of management’s experience and perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances, as of the date of this presentation including, without limitation, assumptions about: favourable equity and debt capital markets; the ability to raise any necessary additional capital on reasonable terms to advance the production, development and exploration of the Company’s properties and assets; future prices of copper and other metal prices; the timing and results of exploration and drilling programs; the accuracy of any Mineral Reserve and Mineral Resource estimates; the geology of the Vale do Curaçá Property being as described in the Vale do Curaçá Technical Report; production costs; the accuracy of budgeted exploration and development costs and expenditures; the price of other commodities such as fuel; future currency exchange rates and interest rates; operating conditions being favourable such that the Company is able to operate in a safe, efficient and effective manner; political and regulatory stability; the receipt of governmental, regulatory and third party approvals, licenses and permits on favourable terms; obtaining required renewals for existing approvals, licenses and permits on favourable terms; requirements under applicable laws; sustained labour stability; stability in financial and capital goods markets; availability of equipment; positive relations with local groups and the Company’s ability to meet its obligations under its agreements with such groups; and satisfying the terms and conditions of the Company’s current loan arrangements. While the Company considers these assumptions to be reasonable, the assumptions are inherently subject to significant business, social, economic, political, regulatory, competitive and other risks and uncertainties, contingencies and other factors that could cause actual actions, events, conditions, results, performance or achievements to be materially different from those projected in the forward-looking statements. Many assumptions are based on factors and events that are not within the control of the Company and there is no assurance they will prove to be correct.

Furthermore, such forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements, including but not limited to: risks related to general economic conditions, political conditions in Canada and Brazil, risks related to international operations, the actual results of current mining and exploration activities, conclusions of economic evaluations, changes in project parameters as plans continue to be refined, future prices of copper, gold and silver, market conditions and the availability of financing for mining companies. There can be no assurance that any forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. The Company does not undertake to update any forward-looking statements that are included herein, except in accordance with applicable securities laws. See the section titled “Risk Factors” in the Annual Information Form of the Company for the year ended December 31, 2017, dated March 28, 2018 (the “AIF”).

CAUTIONARY NOTE TO U.S. INVESTORS CONCERNING ESTIMATES OF MEASURED, INDICATED AND INFERRED RESOURCES:

This presentation uses the terms “Measured”, “Indicated” and “Inferred” Resources. U.S. Investors are advised that while such terms are recognized and required by Canadian regulations, the Securities and Exchange Commission does not recognize them. “Inferred Resources” have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Resources may not form the basis of feasibility or other economic studies. U.S. Investors are cautioned not to assume that all or any part of Measured or Indicated Resources will ever be converted into reserves. U.S. Investors are also cautioned not to assume that all or any part of an Inferred Resource exists, or is economically or legally mineable.

U.S. SECURITIES LAWS DISCLAIMER:

The securities of the Company have not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "U.S. Securities Act"), or any state securities laws and, subject to certain exceptions, may not be offered or sold within the United States, as such term is defined in Regulation S under the U.S. Securities Act.

GENERAL:

Rubens Mendonça, MAusIMM, has reviewed and approved the scientific and technical information contained in this presentation. Mr. Mendonça is a Qualified Person and is independent of Ero as defined by *National Instrument 43-101, Standards of Disclosure for Mineral Projects* ("NI 43-101").

Information of a scientific or technical nature in respect of the Vale do Curaçá Property included in this presentation is based upon the technical report dated October 17, 2018 with an effective date of August 1, 2018 entitled "2018 Updated Mineral Resources and Mineral Reserves Statements of Mineração Caraiba's Vale do Curaçá Mineral Assets, Curaçá Valley", prepared by Rubens Jose De Mendonça, MAusIMM, of Planminas and Porfirio Cabaleiro Rodrigues, MAIG, Fábio Valério Câmara Xavier, MAIG, and Bernardo Horta de Cerqueira Viana, MAIG, all of GE21 (the "2018 Technical Report") and, where applicable, the technical report, dated September 7, 2017 with an effective date of June 1, 2017, entitled "2017 Updated Mineral Resources and Mineral Reserves Statements of Mineração Caraiba's Vale do Curaçá Mineral Assets, Curaçá Valley", prepared by Rubens Mendonça, MAusIMM, of SRK Brazil (now of Planminas – Projectos e Consultoria em Mineração Ltd.), and Porfirio Cabaleiro Rodrigues, MAIG, Mário Conrado Reinhardt, MAIG, Fábio Valério Xavier, MAIG and Bernardo H.C. Viana, MAIG, all of GE21 Consultoria Mineral Ltda., who are independent qualified persons under NI 43-101 (the "2017 Technical Report").

Information of a scientific or technical nature in respect of the Boa Esperança Property included in this presentation is based upon the technical report, dated September 7, 2017 with an effective date of June 1, 2017, entitled "Feasibility Study Technical Report for the Boa Esperança Copper Project, Pará State, Brazil", prepared by Carlos Barbosa, MAIG, Rubens Mendonça, MAusIMM and Girogio di Tomi, MAusIMM, all of SRK Brazil, who are independent qualified persons under NI 43-101 (the "Boa Esperança Technical Report").

Please see the Company's press release dated September 5, 2018, the AIF, the Vale do Curaçá Technical Report and the Boa Esperança Technical Report, each filed on the Company's profile at www.sedar.com, for details regarding the data verification undertaken with respect to the scientific and technical information included in this presentation regarding the Vale do Curaçá Property and the Boa Esperança Property, for additional details regarding the related exploration information, including interpretations, the QA/QC employed, sample, analytical and testing results and for additional details regarding the Mineral Resource and Mineral Reserve estimates disclosed herein.

THIRD PARTY INFORMATION:

This presentation includes market, industry and economic data which was obtained from various publicly available sources and other sources believed by the Company to be true. Although the Company believes it to be reliable, the Company has not independently verified any of the data from third party sources referred to in this presentation, or analyzed or verified the underlying reports relied upon or referred to by such sources, or ascertained the underlying economic and other assumptions relied upon by such sources. The Company believes that its market, industry and economic data is accurate and that its estimates and assumptions are reasonable, but there can be no assurance as to the accuracy or completeness thereof. The accuracy and completeness of the market, industry and economic data used throughout this presentation are not guaranteed and the Company does not make any representation as to the accuracy or completeness of such information.

NON-IFRS MEASURES:

Financial results of the Company and MCSA are prepared in accordance with International Financial Reporting Standards ("IFRS"). The Company and MCSA utilize certain non-IFRS measures, including C1 cash cost of copper produced per pound and working capital. The Company believes that these measures, together with measures determined in accordance with IFRS, provide investors with an improved ability to evaluate the underlying performance of the Company and MCSA. Non-IFRS measures do not have any standardized meaning prescribed under IFRS, and therefore they may not be comparable to similar measures employed by other companies. The data is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

- **99.6% ownership of Mineração Caraíba S.A. (“MCSA”)**
 - 39+ year operating history in Bahia State, Brazil
- **Strong execution of business plan since acquisition of MCSA**
 - ✓ Increased mineral reserves and resources of the Curaçá Valley by over 100%, extended mine life
 - ✓ Achieved first quartile operating costs within first 2 years
 - ✓ Exceeded 2018 guidance, 51% year-on-year increase in Cu production
 - ✓ 3 significant near-mine discoveries made to date: Pilar West Limb, Pilar Deepening Extension and Vermelhos Eastern Zone
- **Stage set for new discoveries with recently completed airborne geophysical survey**
 - Significant number of quality near-mine and regional exploration targets highlighted throughout extent of Curaçá Valley

Ero Copper: the preeminent mid-tier copper producer

Note:

1. Please refer to the Company's SEDAR filings, including without limitation, press releases and the AIF for disclosure surrounding the Company's milestones, performance and risks. For additional scientific information related to MCSA Mining Complex, please refer to the Company's Vale do Curaçá Property Technical Report dated October 17, 2018.





Objective 1

- Near Mine Exploration
- Regional Exploration
-  Invest in Asset Base

Objective 2

-  Mill Throughput
-  Cu Grade
-  Reserves

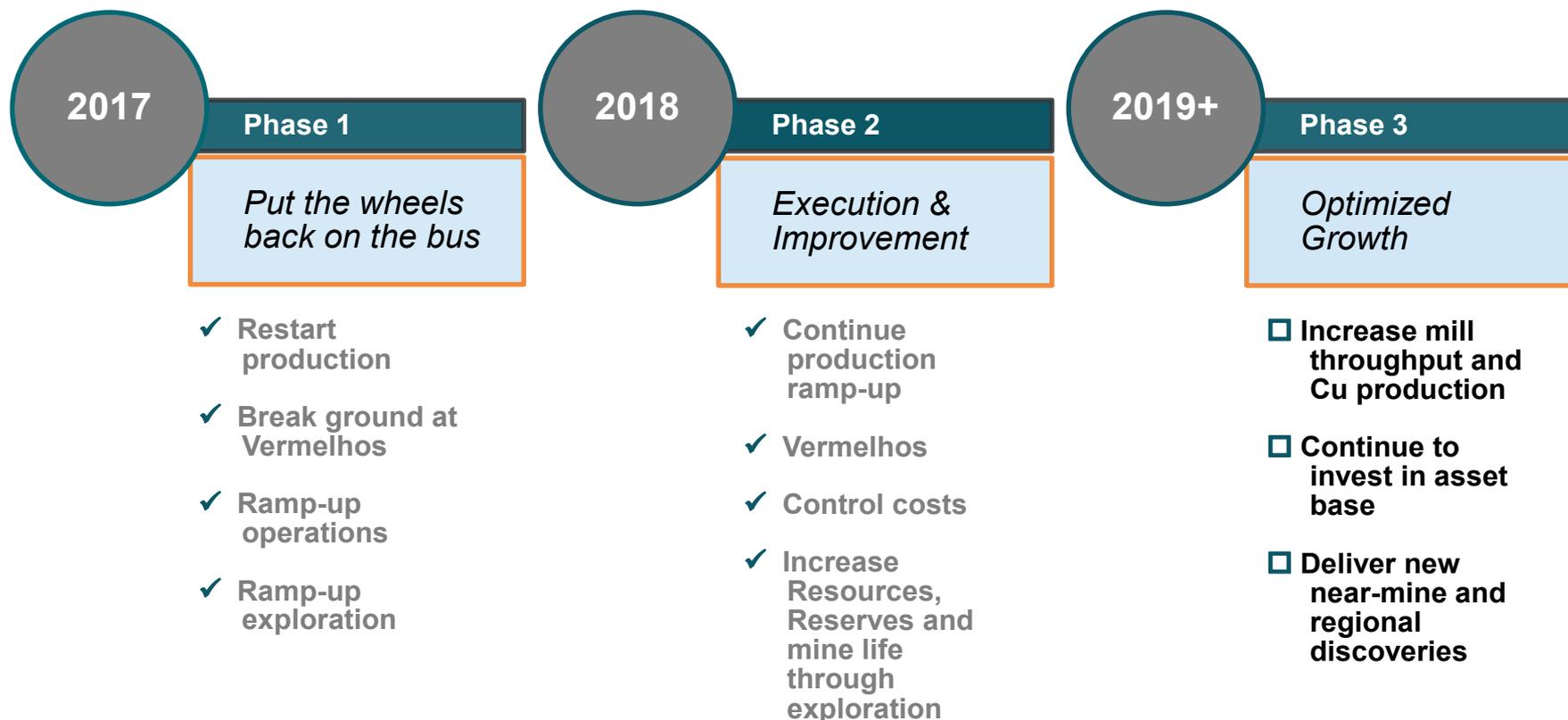
Objective 3

-  Cu Production
- Optimization Projects
-  Recovery

Foundational Objective

Continue to **Support our Team**

- The Company's past and planned operations can be categorized in 3 distinct phases:



Note:

1. Please refer to the Company's SEDAR filings, including without limitations, the Company's press releases and AIF. For additional discussion related to the Company's operations please refer to the Vale do Curaçá Technical reported dated October 17, 2018.





Overview | MCSA Mining Complex, Curaçá Valley

100km

N

Pilar Mine

Mining Method	Underground
Average Mining Rate (Mtpa)	1.4
M&I Resource (Mt)	24.8
M&I Resource Grade (Cu %)	1.90

Salvador

- Capital City of Bahia
- Located ~385km from Mill
- Paranapanema Smelter

Paved highway

Surubim Mine*

Mining Method	Open Pit
Average Mining Rate (Mtpa)	0.8
M&I Resource (Mt)	4.6
M&I Resource Grade (Cu %)	1.03

Pilar

- Local town built for mining operation
- Population ~10,000

Vermelhos Mine

Mining Method	Underground
Average Mining Rate (Mtpa)	0.6
M&I Resource (Mt)	4.6
M&I Resource Grade (Cu %)	3.40

District Open Pit Opportunities (incl. R22W)

Sobradinho Dam

- One of world's largest hydro-electric dams
- Long-term power contract in place

Petrolina & Juazeiro

- Regional center / airport (approx. 1.5 hours from Pilar)
- Population ~500,000

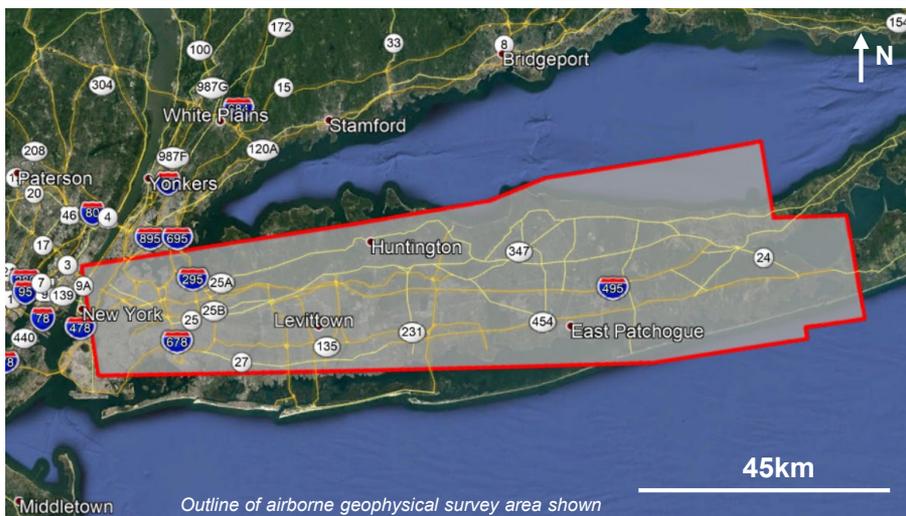
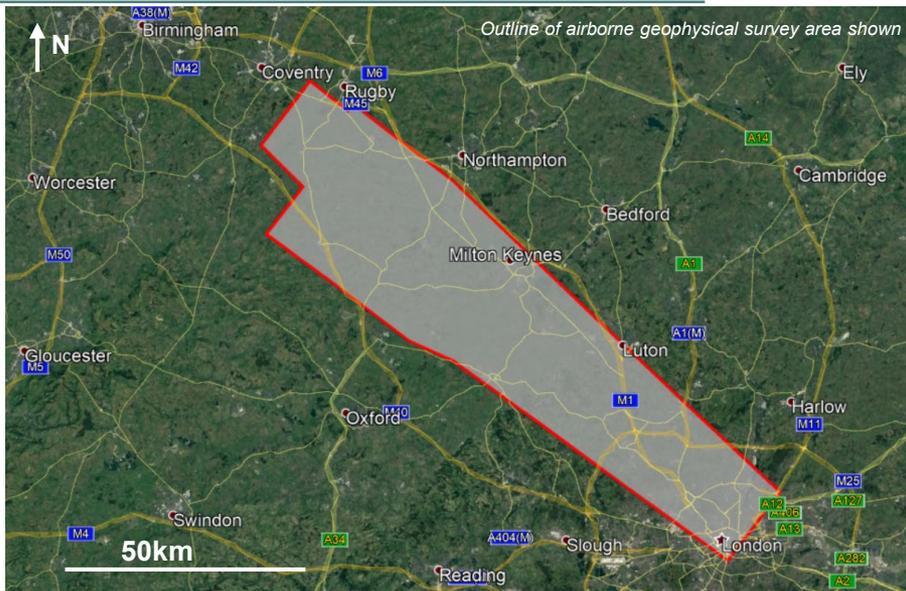
Outline of the Company's airborne geophysical survey area shown

Note:

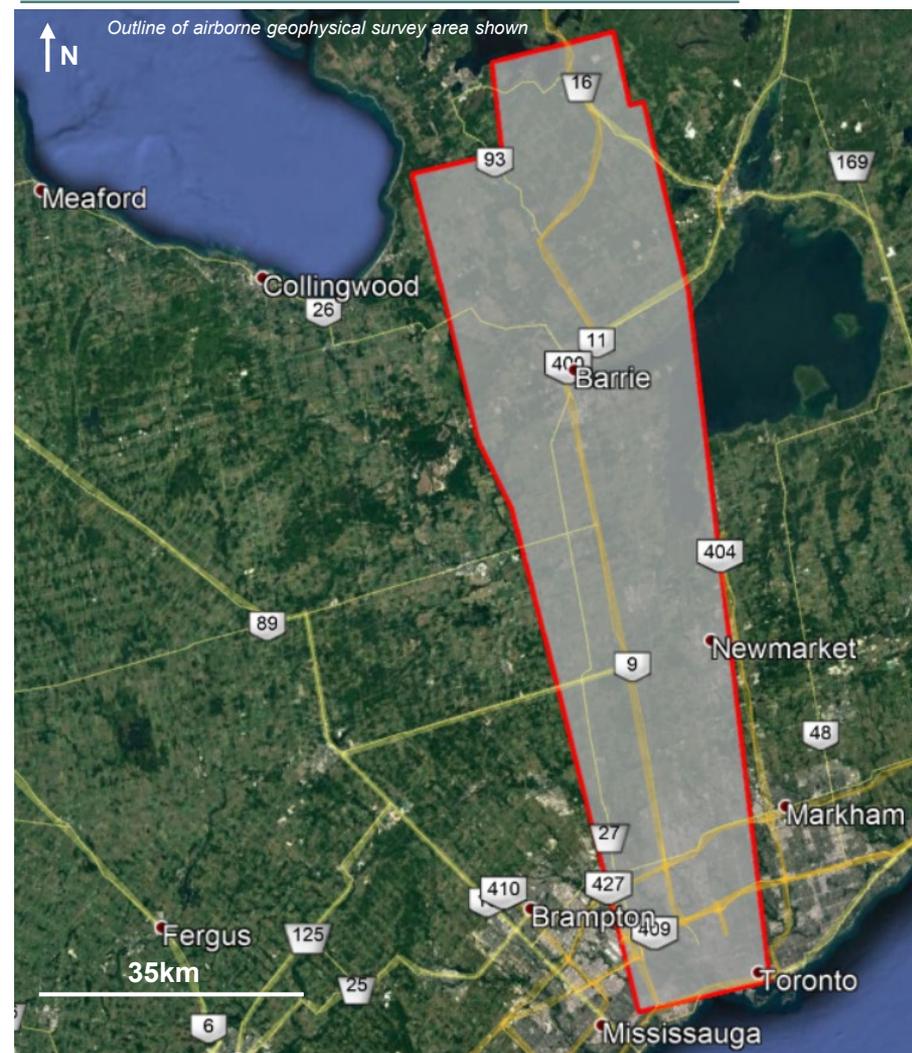
1. Please refer to Appendix – MCSA Mining Complex Reserves & Resources for additional details. Average mining rates based on 2019-2021 production. (*) Surubim 2018 production rate shown.

Overview | Curaçá Valley in perspective

London & New York



Toronto



Google Earth (2018). Approximate relative size of airborne geophysical survey area, shown for illustrative purposes only. Does not imply continuity of mineralization in areas within the Curaçá Valley that have yet to be defined.

- 2018 resource & reserve update

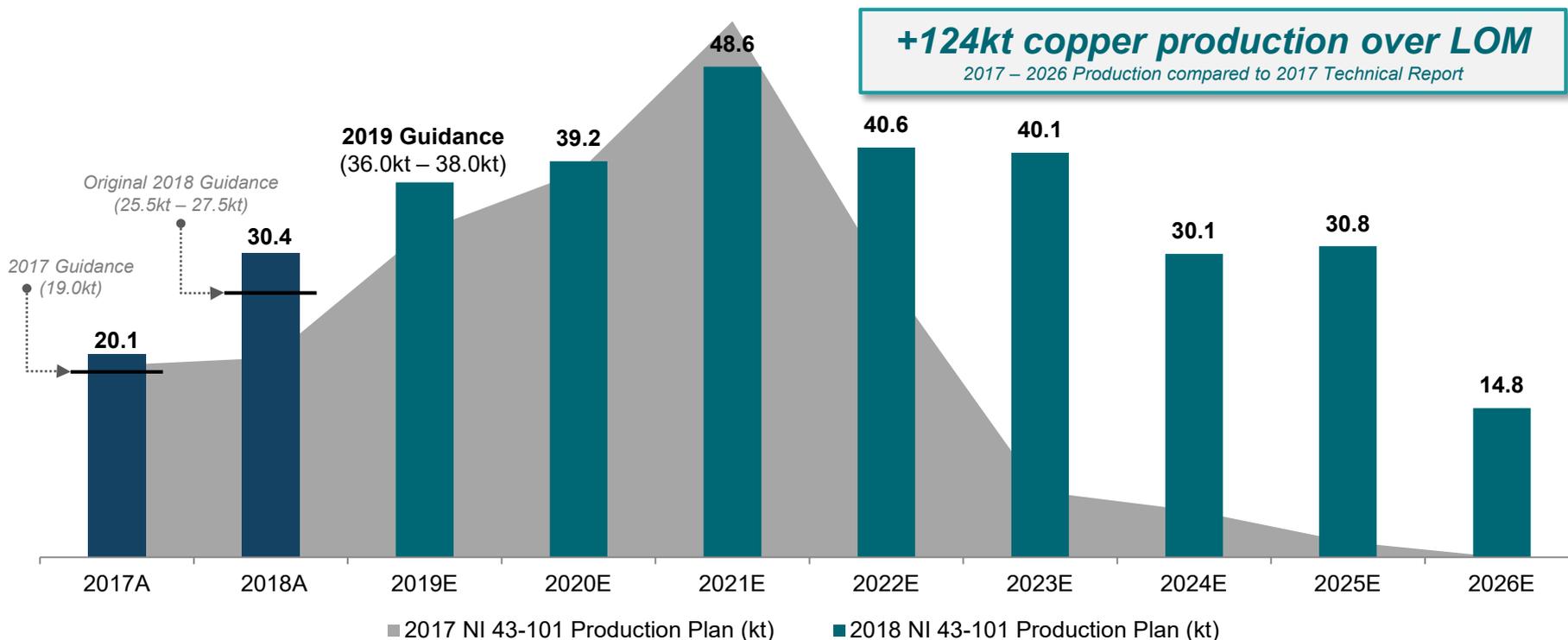
Vale do Curaçá Property, 2018	Tonnage (000 tonnes)	Grade (Cu %)	Cu Contained (kt)
Reserves			
Proven	13,591	1.90%	258.8
Probable	4,846	1.73%	84.0
Total Proven & Probable	18,437	1.86%	342.8
M&I Resources (including Reserves)			
Measured	28,506	1.76%	501.8
Indicated	13,921	1.60%	222.6
Total Measured & Indicated	42,428	1.71%	724.4
Inferred	6,328	1.29%	81.4

Notes:

1. Mineral resources which are not mineral reserves do not have demonstrated economic viability.
2. As outlined in the Vale do Curaçá Property Technical Report dated October 17, 2018, and summarized in the Company's press release dated September 5, 2018.
3. Please refer to Appendix – MCSA Mining Complex Reserves & Resources for additional details.

- 2018 updated plan significantly improved LOM production profile vs. 2017
- Exceeded 2018 production guidance by 15%, with 30.4kt produced

2018 Production Plan (Cu, 000 tonnes)

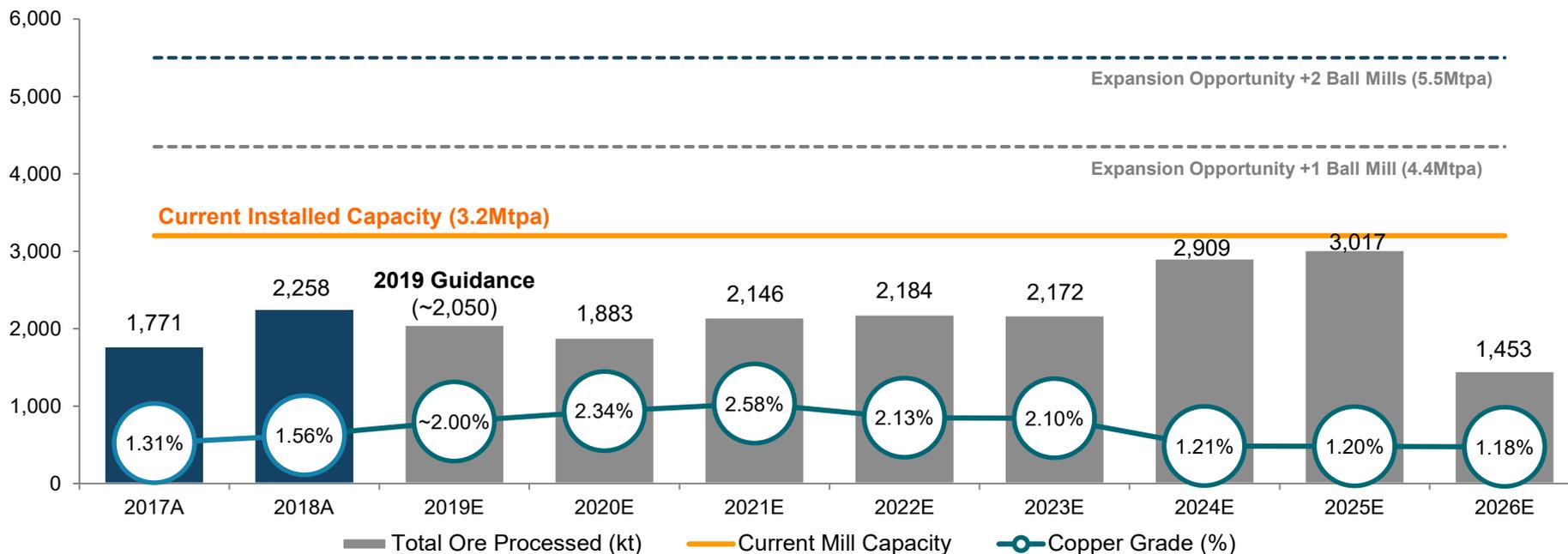


Notes:

- Production forecast as outlined in the Vale do Curaçá Property Technical Report dated October 17, 2018 and summarized in the Company's press release dated September 5, 2018 (does not include potential SXEW production). Please refer to the Company's press release dated January 15, 2019 for 2019 production guidance information.

- Excess mill capacity provides significant operating leverage, allows review of expansion opportunities to return plant to original installed capacity (5.5 Mtpa)

Throughput & Expansion Opportunities

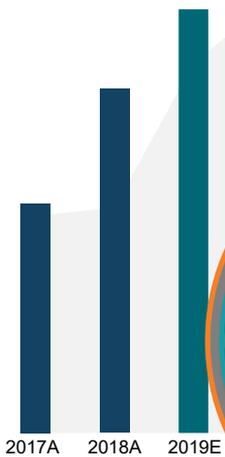


Excess processing capacity and expansion opportunities provide significant operating leverage

Notes:

- Production forecast as outlined in the Vale do Curaçá Property Technical Report dated October 17, 2018 and summarized in the Company's press release dated September 5, 2018 (does not include potential SXEW production). Please refer to the Company's press release dated January 15, 2019 for 2019 production guidance information.

Annual Cu production (tonnes)



+124kt Cu
increased LOM production

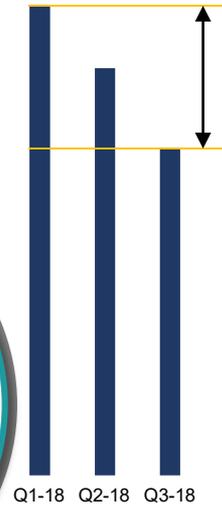
Growth
of Resource,
Reserves &
Mine Life

Increase
Annual
Copper
Production

Decrease
Unit
Operating
Costs

Pilar underground mining cost per tonne

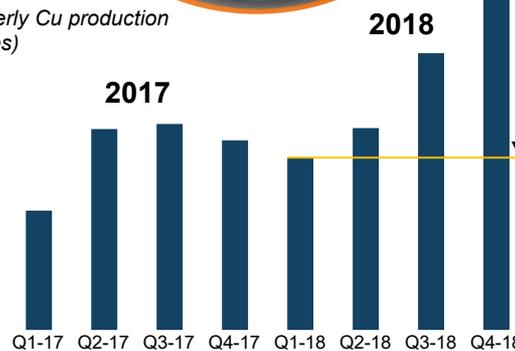
44%
cost reduction Q1-Q3



Near-Mine Discoveries & Regional Exploration

3 significant near-mine discoveries announced in 2018, and regional geophysical survey results show significant number of exploration targets

Quarterly Cu production (tonnes)



~250%
Cu production improvement Q1-Q4

Continuing to execute on our core objectives, key improvement projects underway

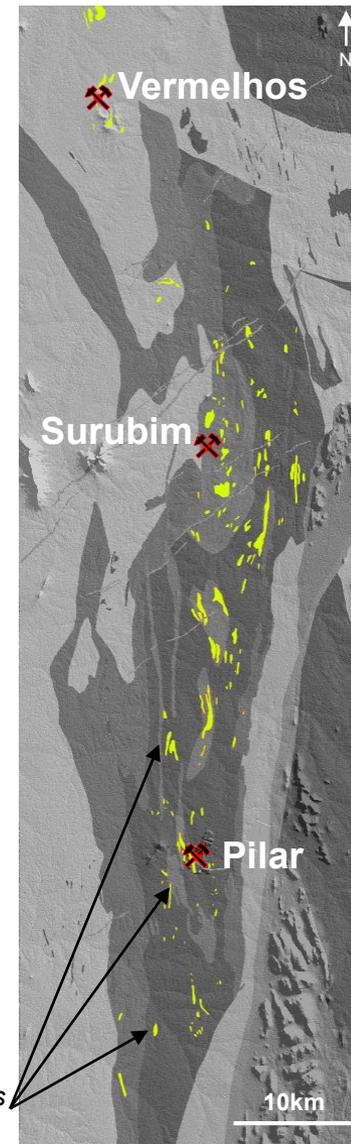


Geology & Exploration Technical Session

Disclaimer: No deposit is alike. This section compares the Curaçá Valley to other well-known magmatic sulphide deposits around the world for illustrative purposes only. Such comparisons do not imply similar scale, size, grade or total contained value of mineralized material (or potential of the same) but rather, have been shown to provide the reader with a better geological understanding of the deposit type classification and/or specific characteristics of the Curaçá Valley.

- **Copper deposits and occurrences are found throughout the 100km+ long belt of ultramafic-mafic intrusive bodies in the Curaçá Valley**
 - Ore associated with ultramafic intrusions composed of disseminated to massive chalcopyrite and bornite
 - Intrusive ultramafic bodies appear to post-date most of the deformation that affected the host gneissic rocks
 - Potassium-rich alteration has affected (remobilized) the earlier phase of intrusion-related mineralization, possibly increasing grades locally
 - Evidence of nickel (“Ni”) and platinum group elements (“PGEs”)
- **Deposit type shows similarities to significant magmatic sulphide deposits (e.g. Sudbury, Voisey’s Bay, Eagle)**
 - Unusual as, from what is known today, it is largely dominated by copper and anomalous in Ni, Pd, Au and Ag
 - Additional complexities related to remobilization caused by potassic alteration event

*Mafic / Ultramafics
(shown in yellow)*



- Magmatic sulphide deposits are modeled to form in multiple environments (sub-types)
- Economic deposit formation characterized by large-scale naturally occurring smelting process (immiscible sulphide bearing liquid within volcanic intrusion)

Magmatic Sulphide Deposit Classification by Sulphide Content

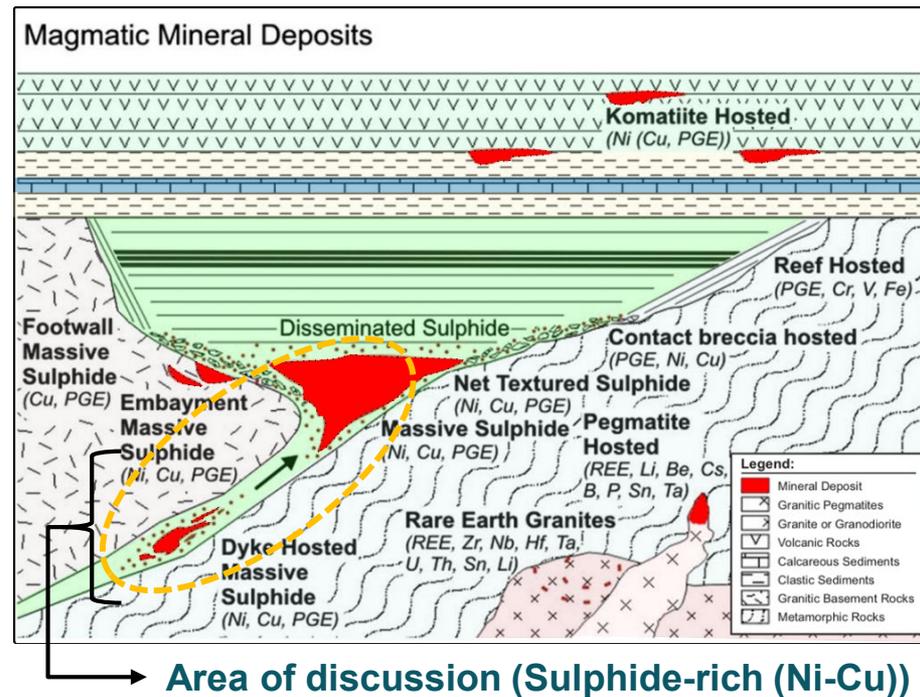
Sulphide-rich (Ni-Cu)
(PGE by-products)

- Mafic / ultramafic intrusion related**
(Norilsk, Voisey's Bay, Sudbury, Jinchuan, Eagle, Curaçá Valley)
- Lava flow related (Komatiite)**
(Kambalda, Raglan)

Sulphide-poor (PGE)
(Ni-Cu-Co by-products)

- Layered stratiform mafic / ultramafic intrusions**
(Bushveld Complex)

Classical Magmatic Sulphide Schematic^[1]



Note:

- Lundin Mining Corp. Technical Report on the Eagle Mine, dated April 26, 2017, Figure 8-1.

- Magmatic sulphide deposits are considered among the highest value base metals deposits globally – here is why:

Key Themes

Scarcity / Scale

- Requires unique set of structural / geological formation parameters

High-Grade

- Among highest value base metals deposit types globally

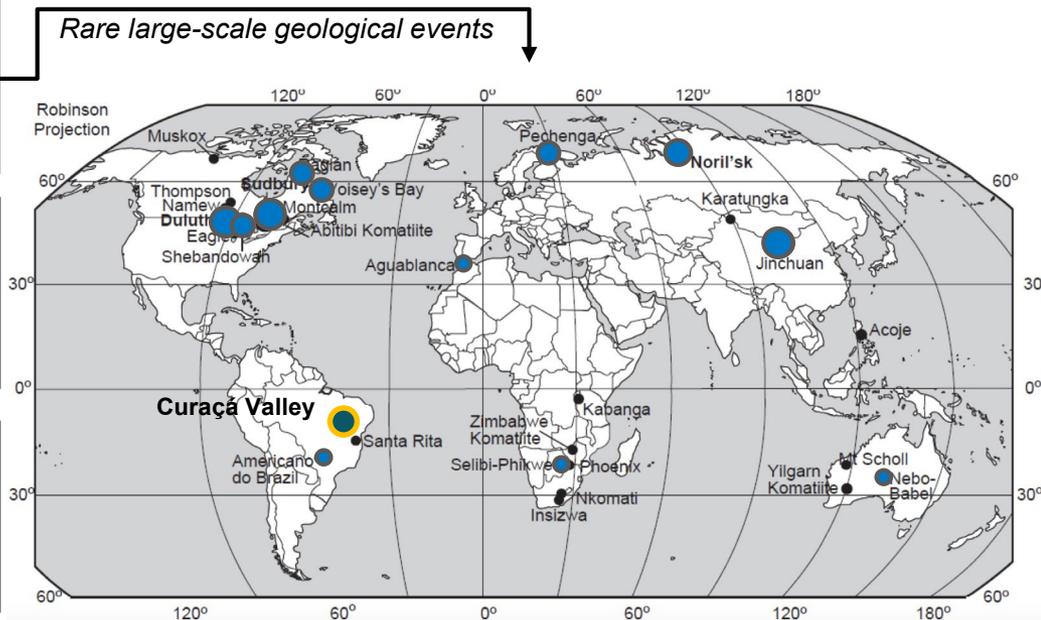
Geometry

- Structural controls result in formation of high-grade chambers “superpods”

Metal Zonation

- By-product metals (Ni, PGE) often segregated - contribute to high value and low operating costs

Major Magmatic Sulphide Districts^[1]



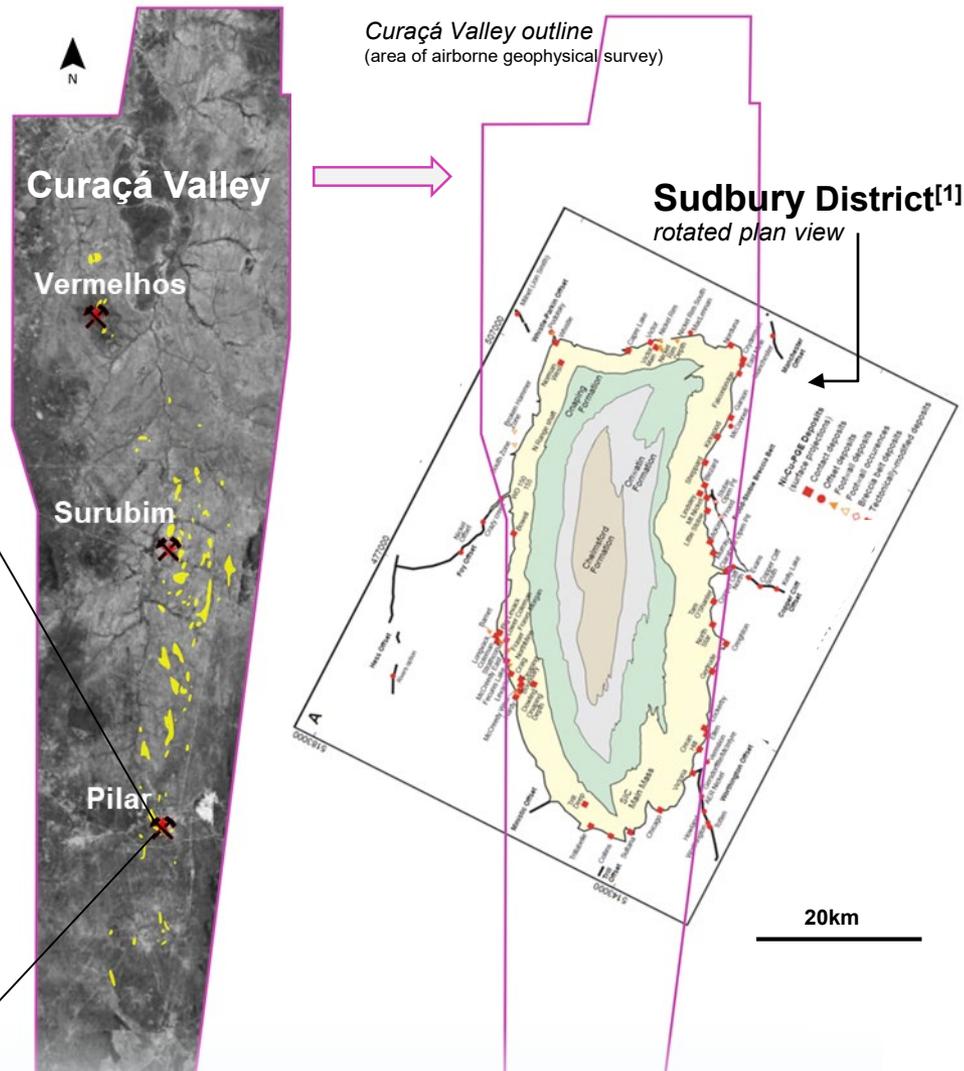
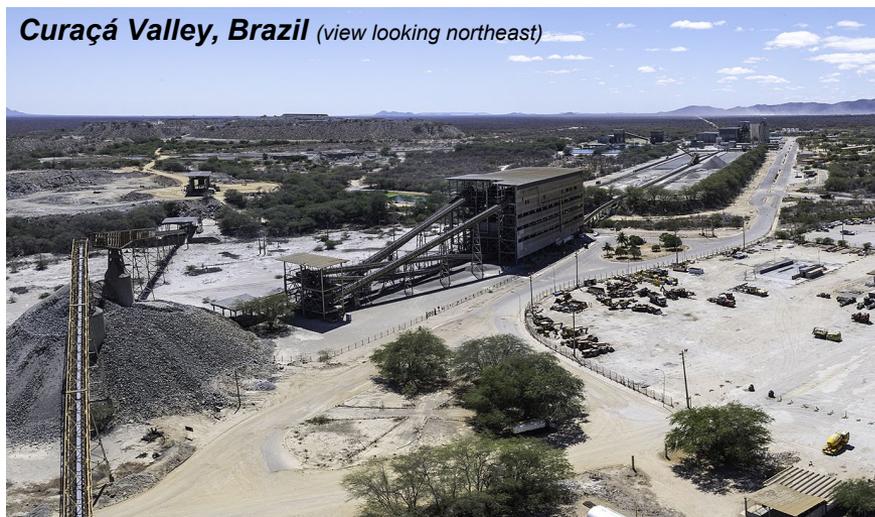
Note:

1. Adapted from Burrows, 2014. Modified by Ero Copper (2018). Cu-rich variety highlighted.

- The scale, flat-lying topography and desert climate are important distinguishing attributes of the Curaçá Valley

Curaçá Valley: larger geographic footprint than Sudbury District [2]

Curaçá Valley, Brazil (view looking northeast)

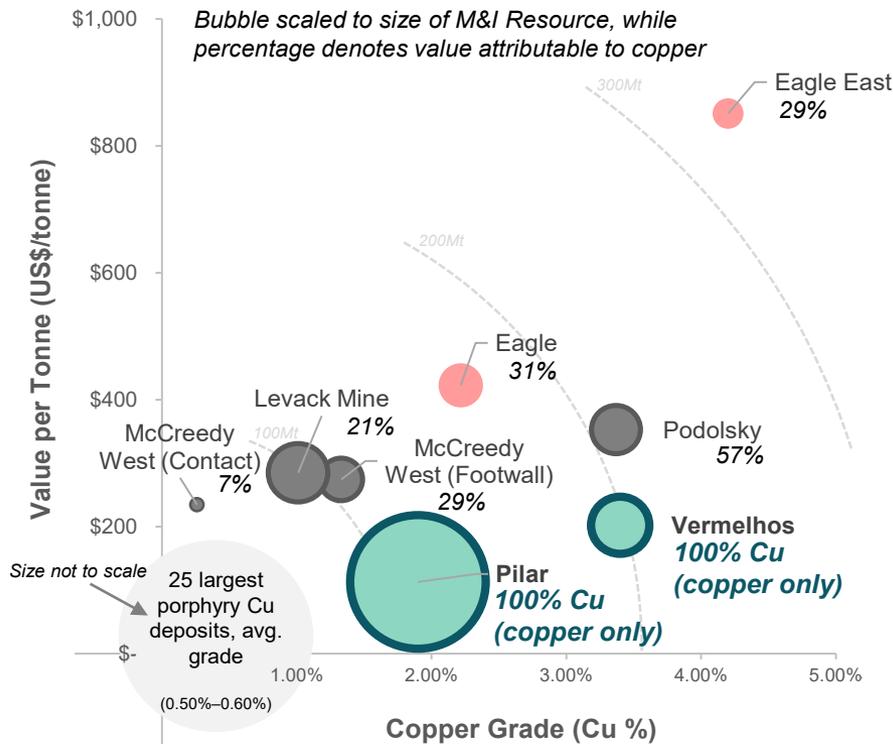


Notes:

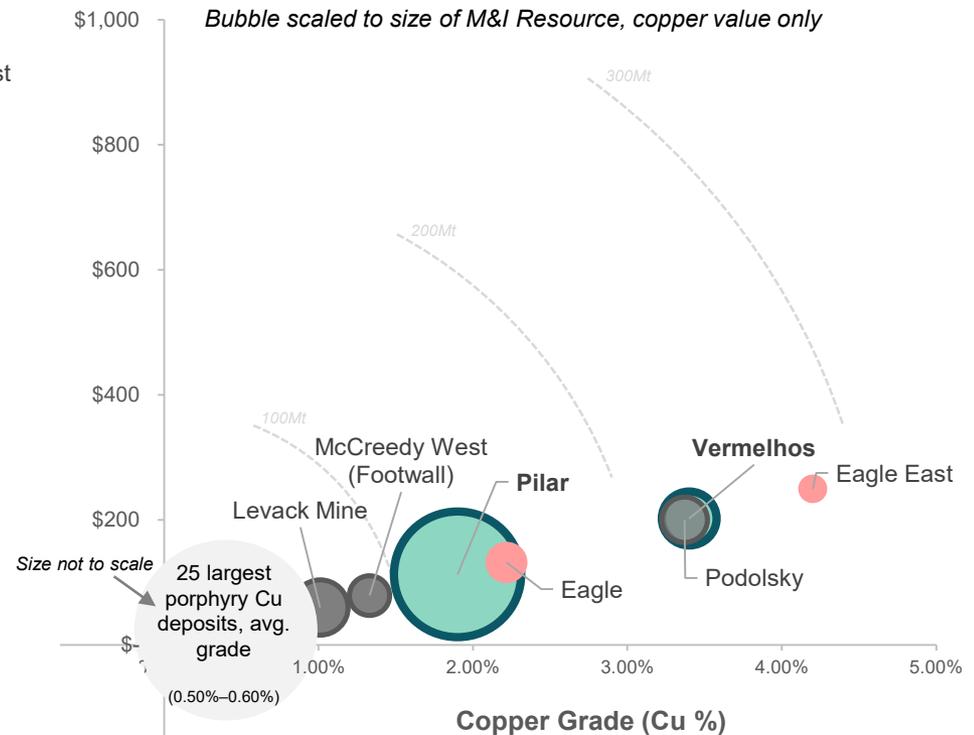
- Adapted from Lightfoot and Zotov 2007 and Burrows, 2014. Modified by Ero Copper (2018) to align major structural trend to north-south orientation.
- Geographic footprint shown for illustrative purposes only. Does not imply similar size, scale or extent of mineralization that has yet to be defined.

- High grade equals high metal value per tonne of rock

Value per Tonne (Total Metal Value)



Value per Tonne (Contained Cu Value)



■ Ero Copper

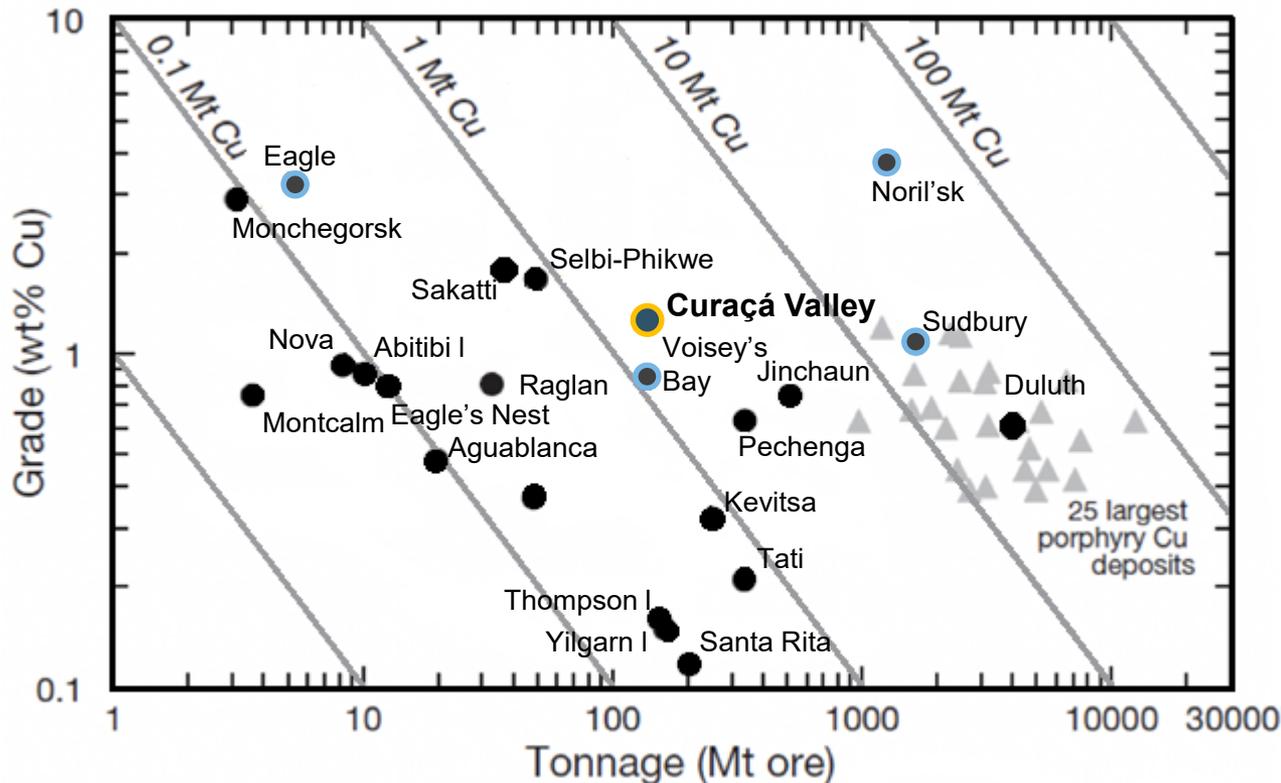
■ Lundin Mining

■ FNX Mining*

Note:

- Source: FNX Mining Measured & Indicated Resources as outlined in the March 30, 2007 press release (shown at current metal prices for illustrative purposes only) and Lundin Mining September 6, 2018 press release. Value per tonne considers 100% metallurgical recovery / payability and is based on Cu and Ni prices \$2.70 and \$5.00 per pound, respectively. Value of contained Au, Ag, Pt, and Pd based on prices of \$1,275, \$15.50, \$825 and \$1,300 per ounce, respectively. Vermelhos Ni & PGM value opportunity shown for illustrative purposes only.

- From what is known of the Curaçá Valley, total copper mineralization shows similar scale to that of Voisey's Bay

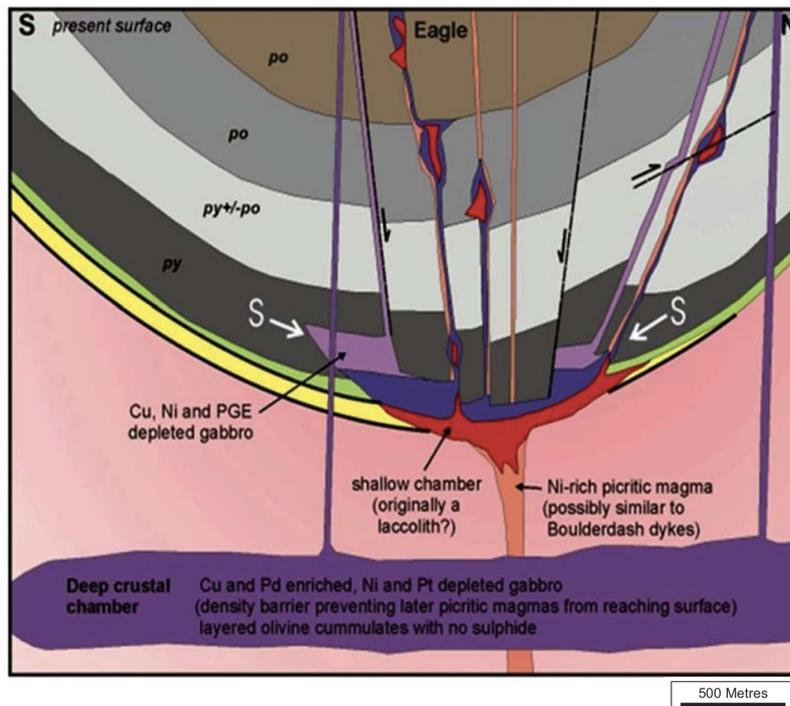


Notes:

- No deposit is alike. Shown for illustrative purposes only. Does not include by-product metals (copper grade only).
- Adapted from Burrows, 2014. Modified by Ero Copper (2018). Curaçá Valley estimate based on total historic production plus current Mineral Resource estimate. Please refer to the Vale do Curaçá Technical Report dated October 17, 2018 for additional information related to the current Mineral Resource estimate and historic production from the Company's Curaçá Valley operations.

- Mineralized magma conduits typically connect larger magma chambers
- Exploring for high-grade orebodies reliant on tracing conduits / pathways from one chamber to the next using structural controls (and geophysics) as guide

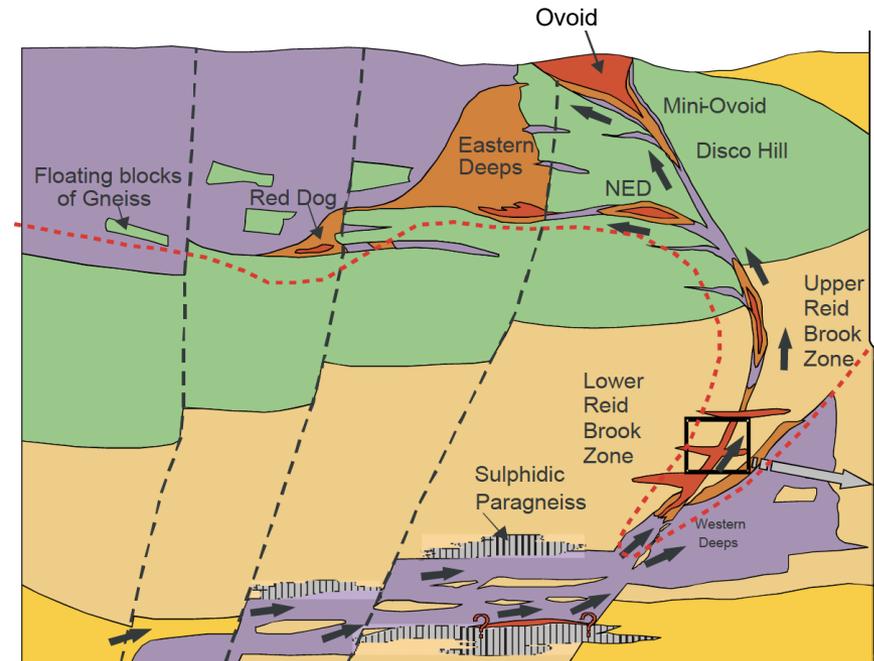
Eagle (view looking East)^[1]



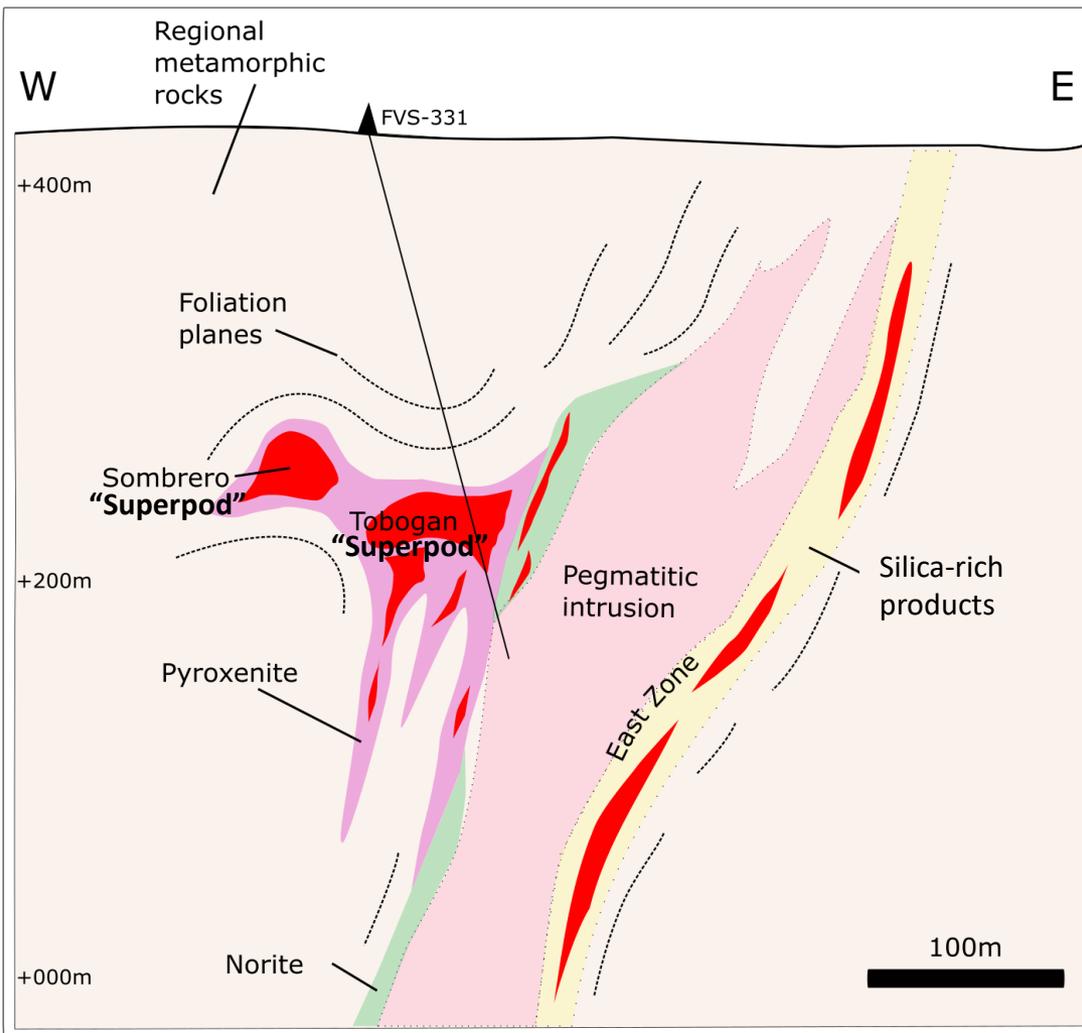
Notes:

1. Lundin Mining Corp. Technical Report on the Eagle Mine, dated April 26, 2017, Figure 8-2.
2. Lightfoot et al. 2015.

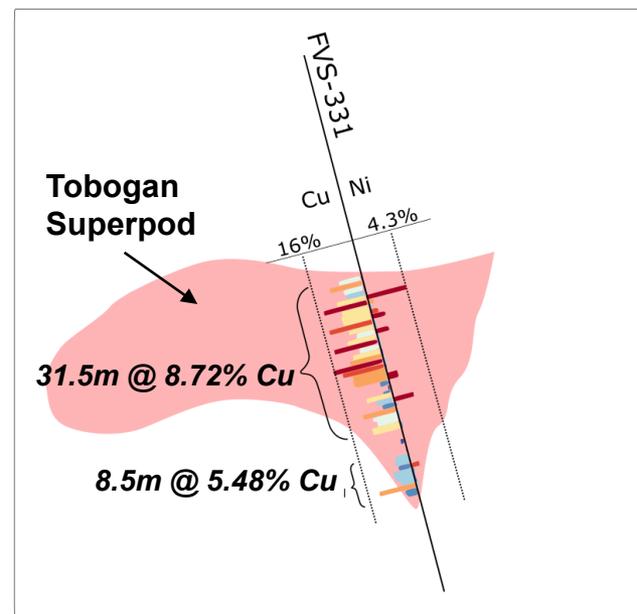
Voisey's Bay (view looking West)^[2]



Vermelhos (view looking North)



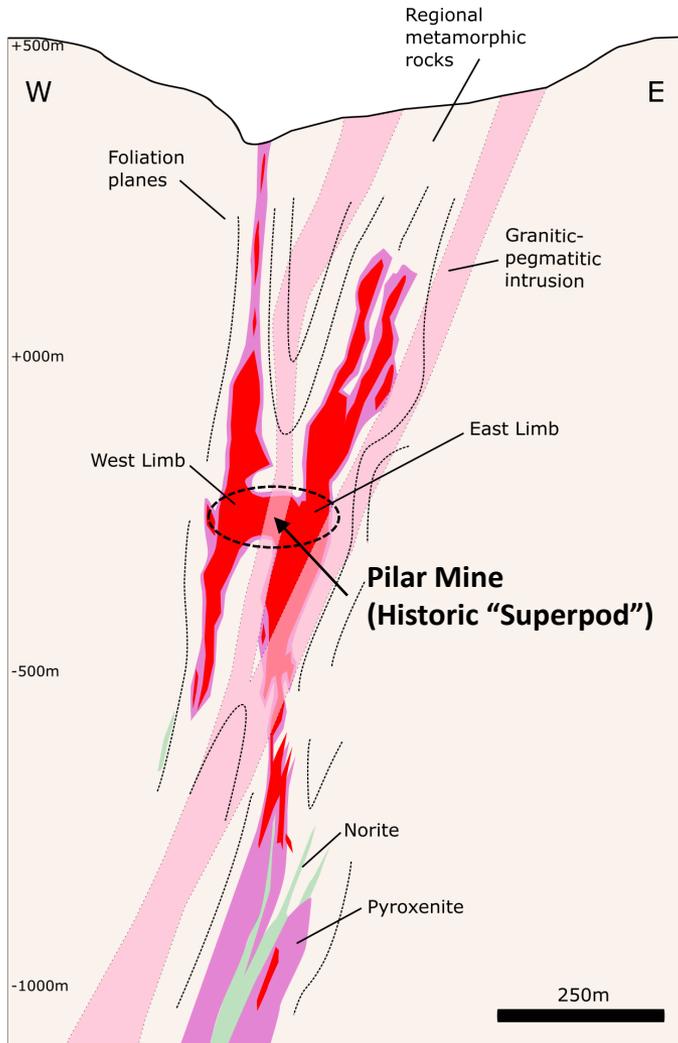
- Using structural data (geometry) to target / better define potential for high-grade mineralized chambers or “superpods”



Notes:

- Please see the Company's press release dated December 11, 2018 for complete results.

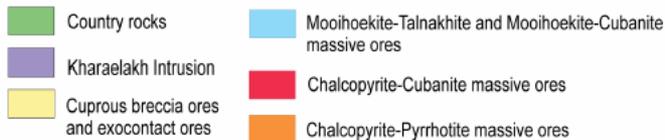
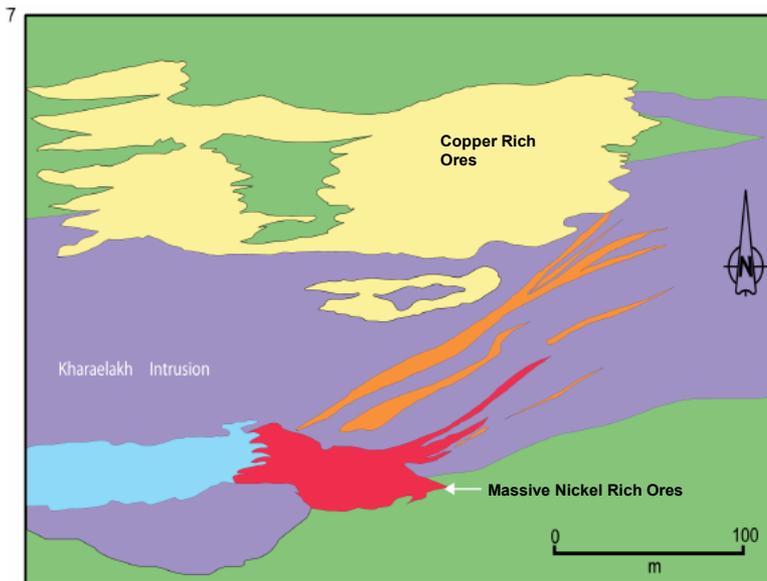
Pilar (view looking North)



- **The Pilar Mine is a more understood system (commenced underground mining in 1986); however, the same structural controls define mineralization**
- **Dominant orientation and zones of weakness control conduit pathways and chamber formation**
 - Detailed review of geometry, structural controls (foliation planes) contributed to the discovery of the West Limb
- **Still excellent opportunity for new discoveries within and adjacent to Pilar Mine infrastructure**

- **Cu-rich ores are typically segregated from Ni-rich ores within overall structure – an important feature in guiding exploration programs**

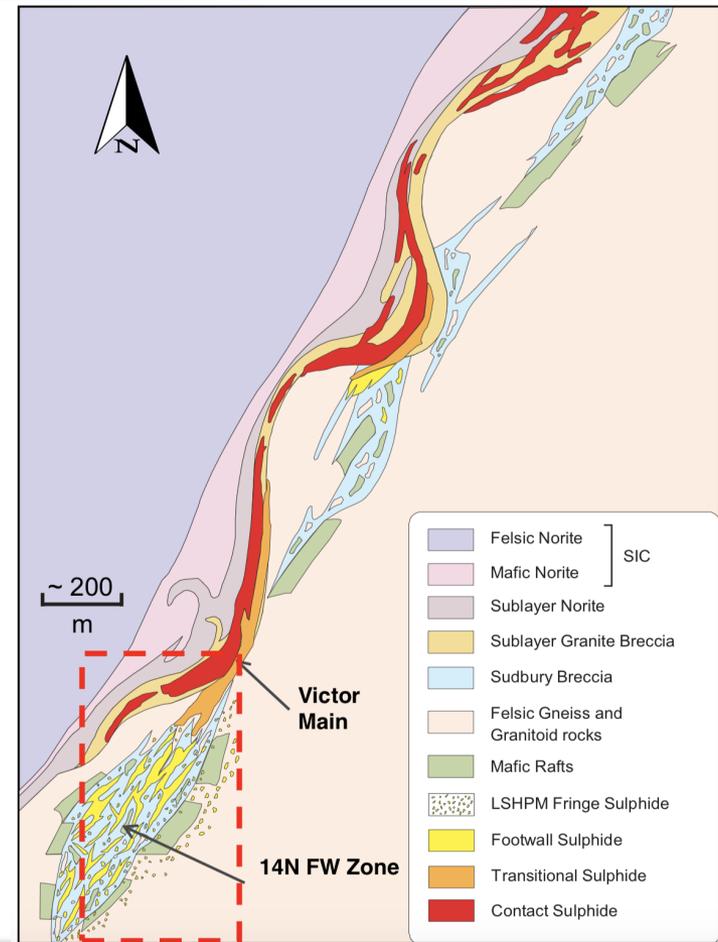
Kharaelakh Norilsk^[1]



Notes:

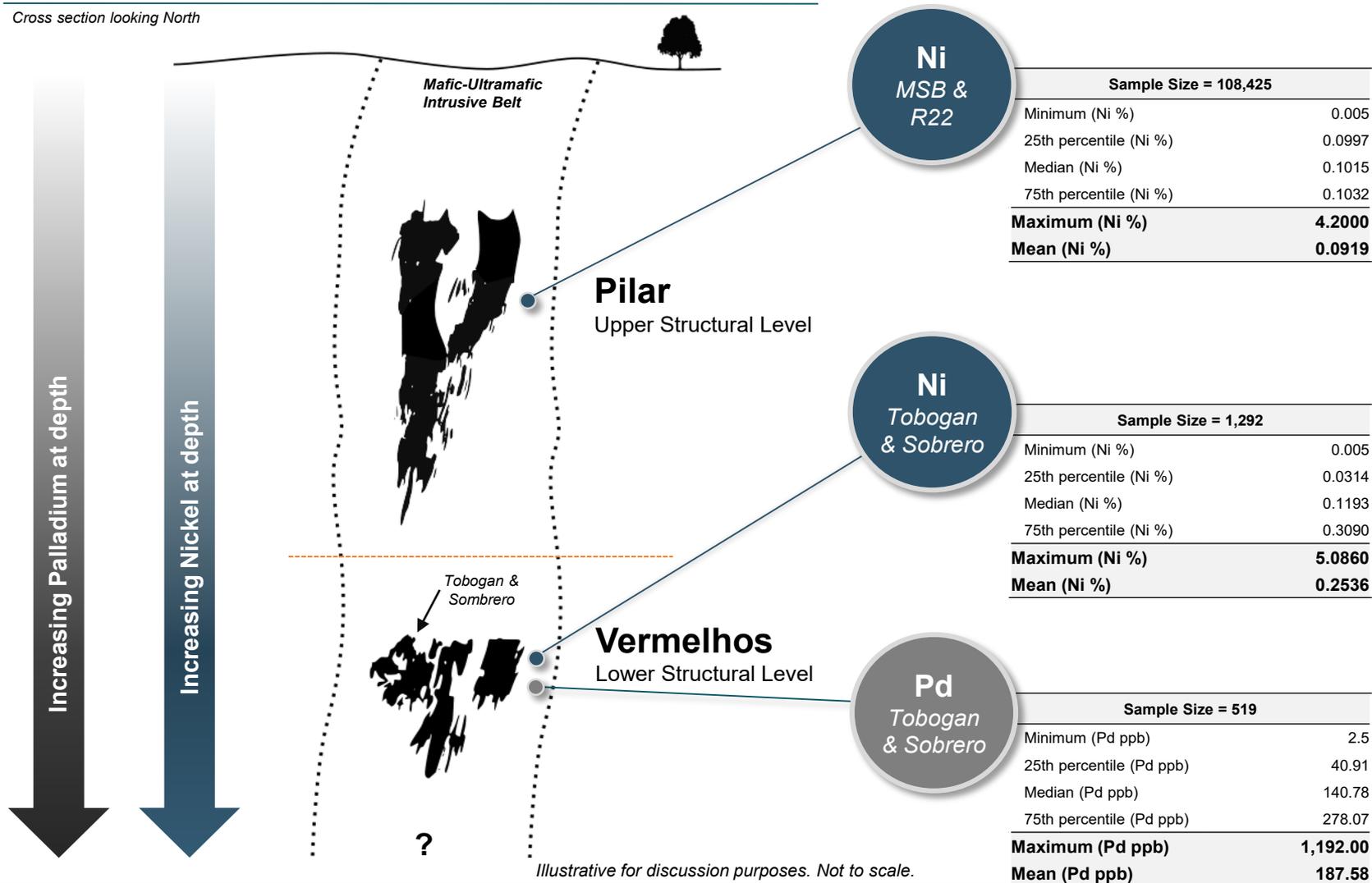
1. Source: Lightfoot and Zotov, 2007
2. Source: Burrows, 2014

Sudbury^[2]



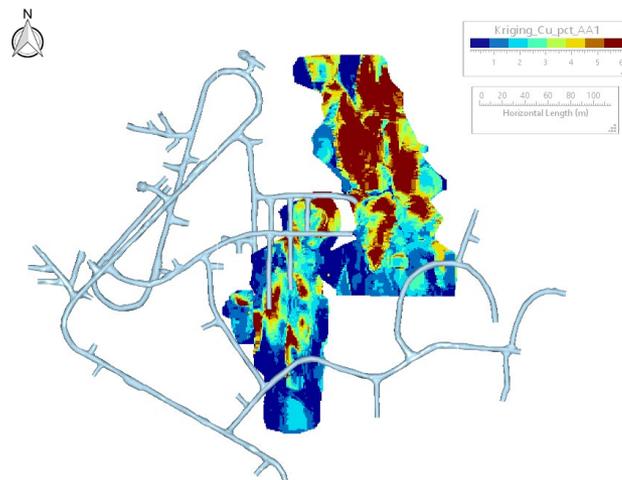
Curaçá Valley Composite Emplacement / Erosional Schematic

Cross section looking North

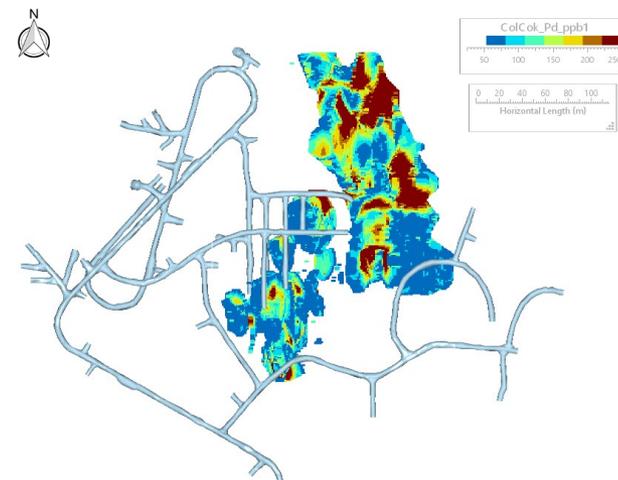


- Relationship between PGE elements and copper occurrences at Vermelhos
- Multi-element ICP never systematically performed
- Focus on Palladium due to strong relationship with Cu (at Vermelhos)

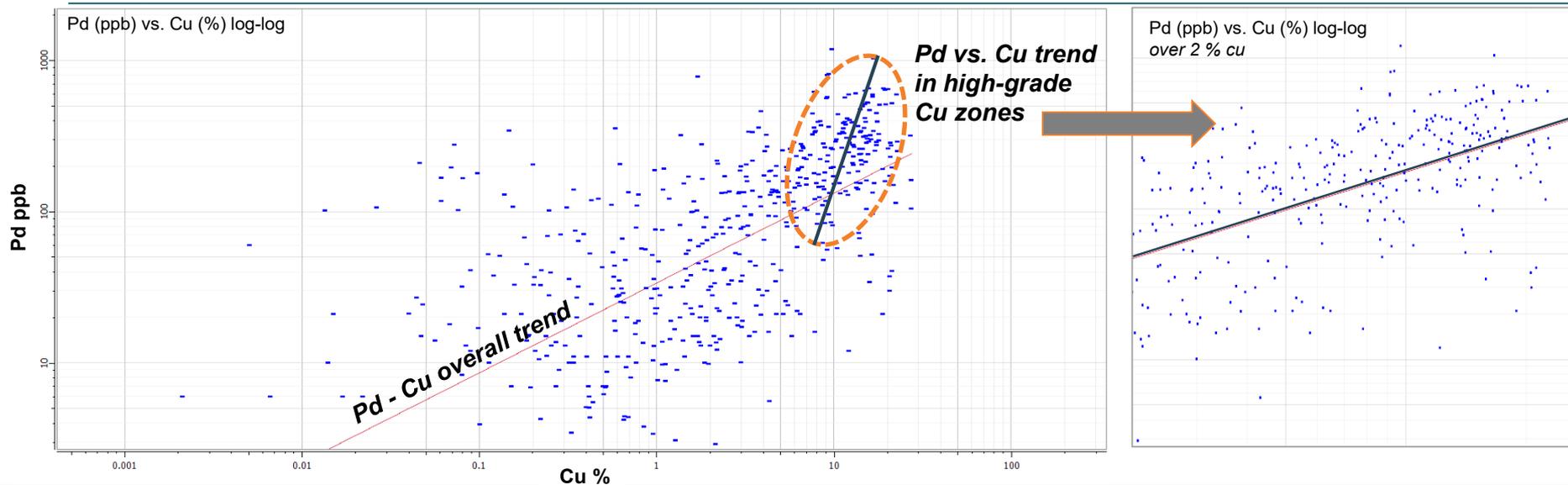
Kriging Copper, Tobogan and Sobrero

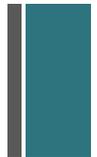


Kriging Palladium, Tobogan and Sobrero



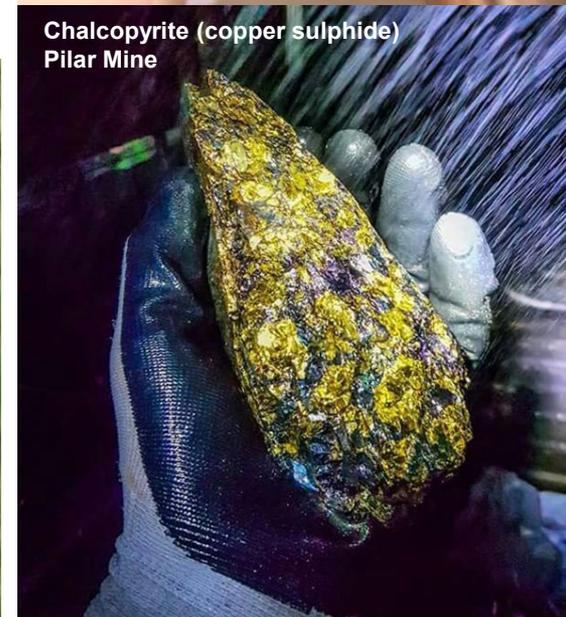
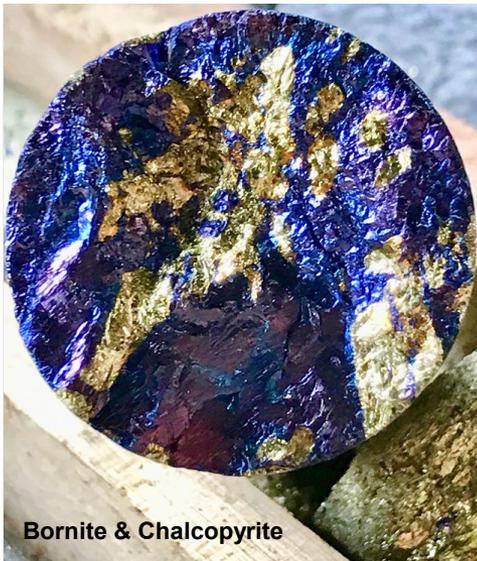
Copper – Palladium Statistical Relationship (Vermelhos)





Curaçá Valley Exploration

- **High-grade copper (and nickel?)**
 - Amenable to classic magmatic sulphide exploration techniques:
 - Soil geochemistry, gravity, magnetics, Induced Polarization (IP) and Electromagnetics (EM)
 - Data rich environment (40+ years of exploration data)
 - Implementing data-driven probabilistic modelling to enhance and refine classic techniques



- **To date drilling focused on near-mine exploration while foundation for regional exploration drill program is being established**
 - 18 drill rigs currently on site (22 by end of Q1 2019)
 - EM/Gravity survey flown over entire 100km x 30km Valley
 - Results support excellent potential for new high-grade discoveries – **significant number of anomalies identified**
 - Drill testing of greenfield & brownfield discoveries throughout Curaçá Valley underway

Selection of Recent Drill Results^[1]

Hole ID	To (m)	From (m)	Interval (m)	Cu (%)
Vermelhos East Zone				
FVS-269	3.1	29.4	26.3	3.63
<i>including</i>	12.7	28.3	15.7	4.93
FVS-311	81.2	108.5	27.4	8.39
<i>including</i>	84.2	101.9	11.7	10.76
Vermelhos Mine				
FVS-331	179.1	210.6	31.5	8.72
and	215.6	224.1	8.5	5.48
<i>Development Grab Samples (N+285)</i>		-	-	<i>Up to 21.7% Ni</i>

2019 Drill Program

- **130,000 meters of planned drilling**
- **Additional meters to be drilled in H2 2019 dependent on results**

Notes:

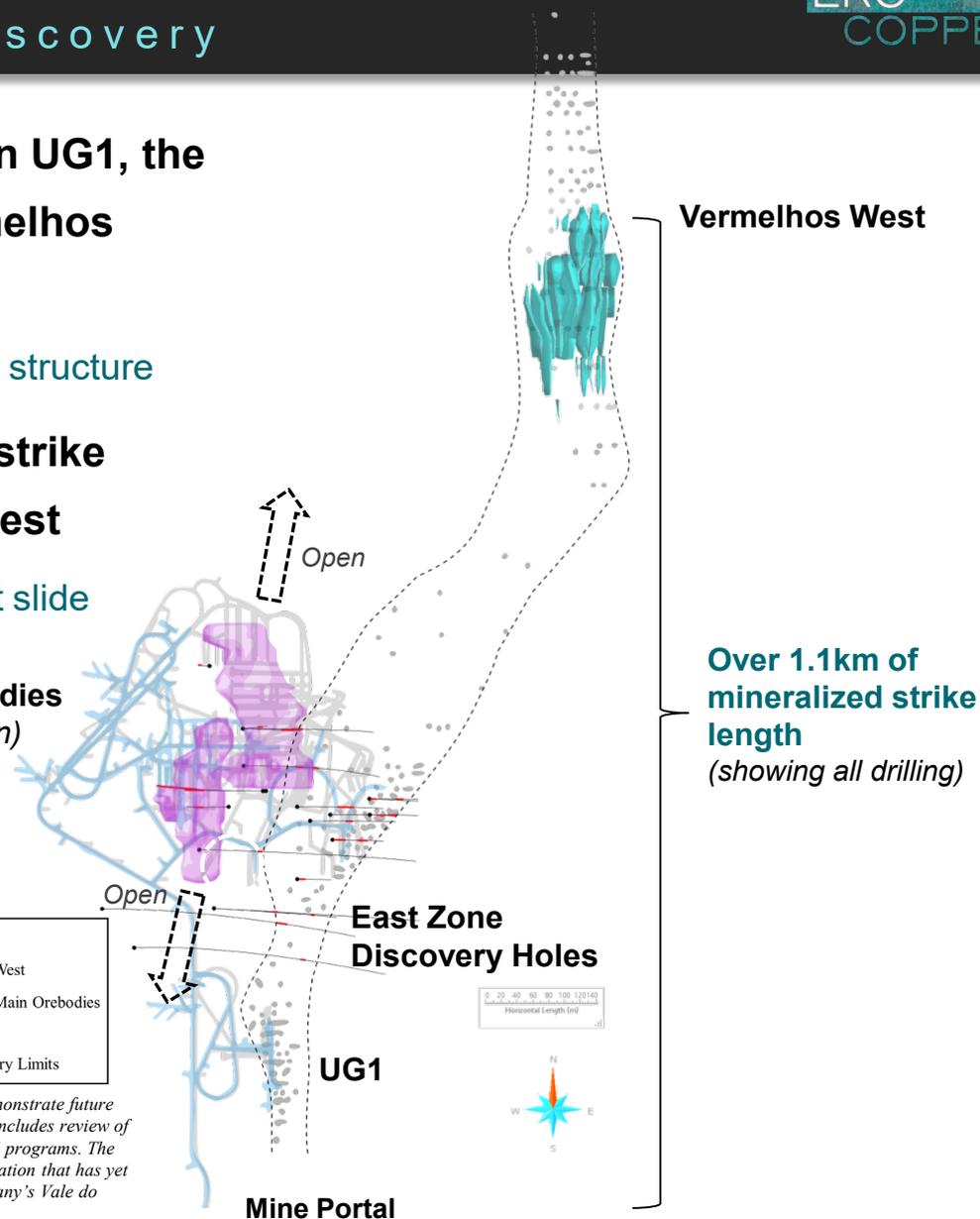
1. Please see the Company's press release dated December 11, 2018 for complete results.



Near Mine Exploration

- **Data analysis shows link between UG1, the new eastern discovery, and Vermelhos West**
 - Interpreted to be single mineralized structure
- **Structure extends over 1.1km in strike length from UG1 to Vermelhos West**
 - Long-section shown on subsequent slide

Main Orebodies
(remain open)



Vermelhos West

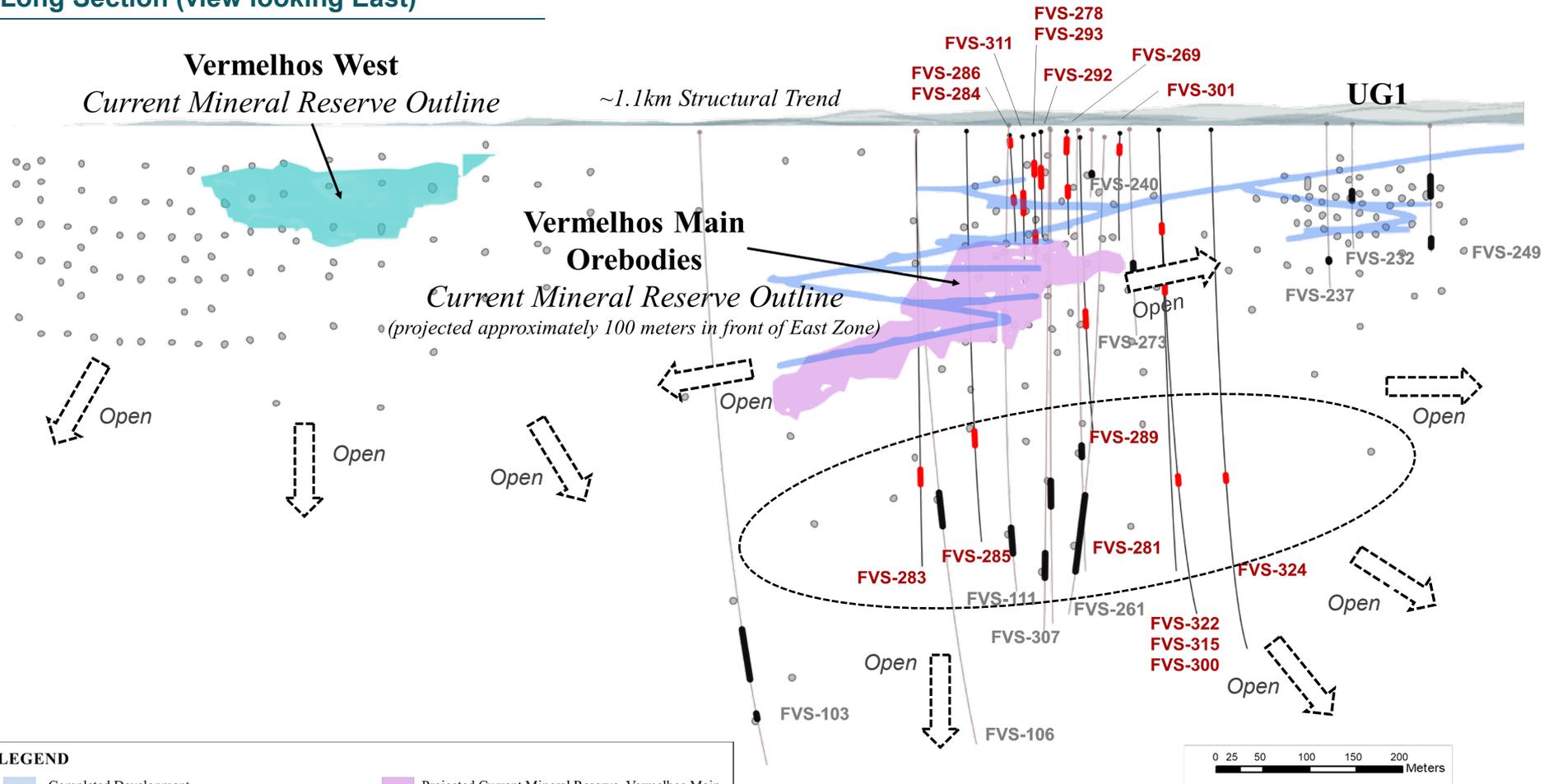
Over 1.1km of mineralized strike length
(showing all drilling)

LEGEND

	Completed Development		Surface Projection of Current Mineral Reserve, Vermelhos West
	Planned Development		Surface Projection of Current Mineral Reserve, Vermelhos Main Orebodies
	Q4 Exploration Update Drill Holes		Vermelhos East Zone Interpretation
	Cu Intercepts		Identified Pierce Point within Interpreted East Zone Boundary Limits

Note: See Company's press release dated December 11, 2018. Vermelhos East Zone projection shown to demonstrate future area of exploration within the Vermelhos District. The projection is based on data compilation work which includes review of geological controls, structural analysis and copper mineralization identified during the Company's technical programs. The interpretation and boundary limits do not imply continuity of mineralization, or actual thickness of mineralization that has yet to be defined. For additional scientific information related to the Vermelhos Mine, please refer to the Company's Vale do Curaçá Property Technical Report dated October 17, 2018.

Long Section (view looking East)

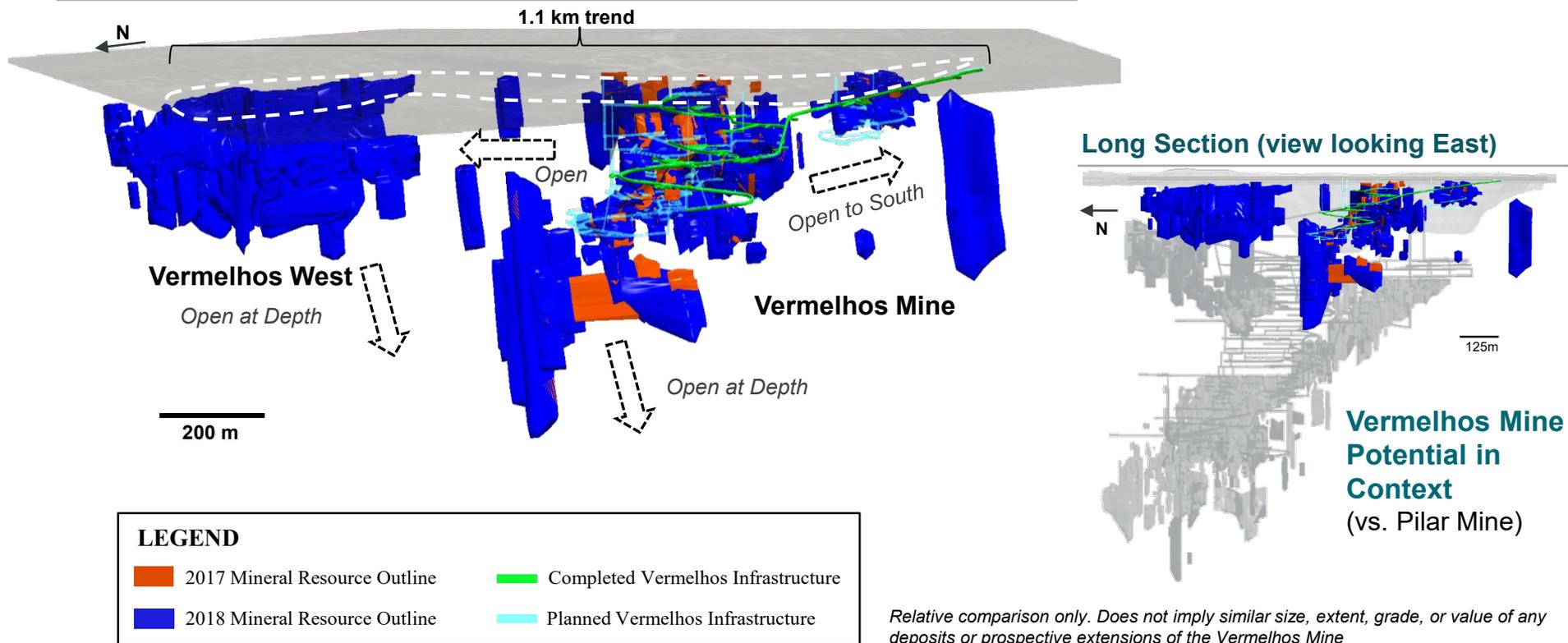


LEGEND	
	Completed Development
	Projected Current Mineral Reserve, Vermelhos Main Orebodies
	Q4 Exploration Update Intercepts, Vermelhos East Zone
	Previously Announced Vermelhos East Zone Intercepts
	Projected Current Mineral Reserve, Vermelhos West
	Identified Pierce Point within Interpreted East Zone Boundary Limits

Note: See Company's press release dated December 11, 2018. Vermelhos East Zone projection shown to demonstrate future area of exploration within the Vermelhos District. The projection is based on data compilation work which includes review of geological controls, structural analysis and copper mineralization identified during the Company's technical programs. The interpretation and boundary limits do not imply continuity of mineralization, or actual thickness of mineralization that has yet to be defined. For additional scientific information related to the Vermelhos Mine, please refer to the Company's Vale do Curuçá Property Technical Report dated October 17, 2018.

- 5 drill rigs operating at Vermelhos on near- and in-mine targets highlighted by the airborne geophysical survey and borehole EM

Vermelhos Resource Expansion



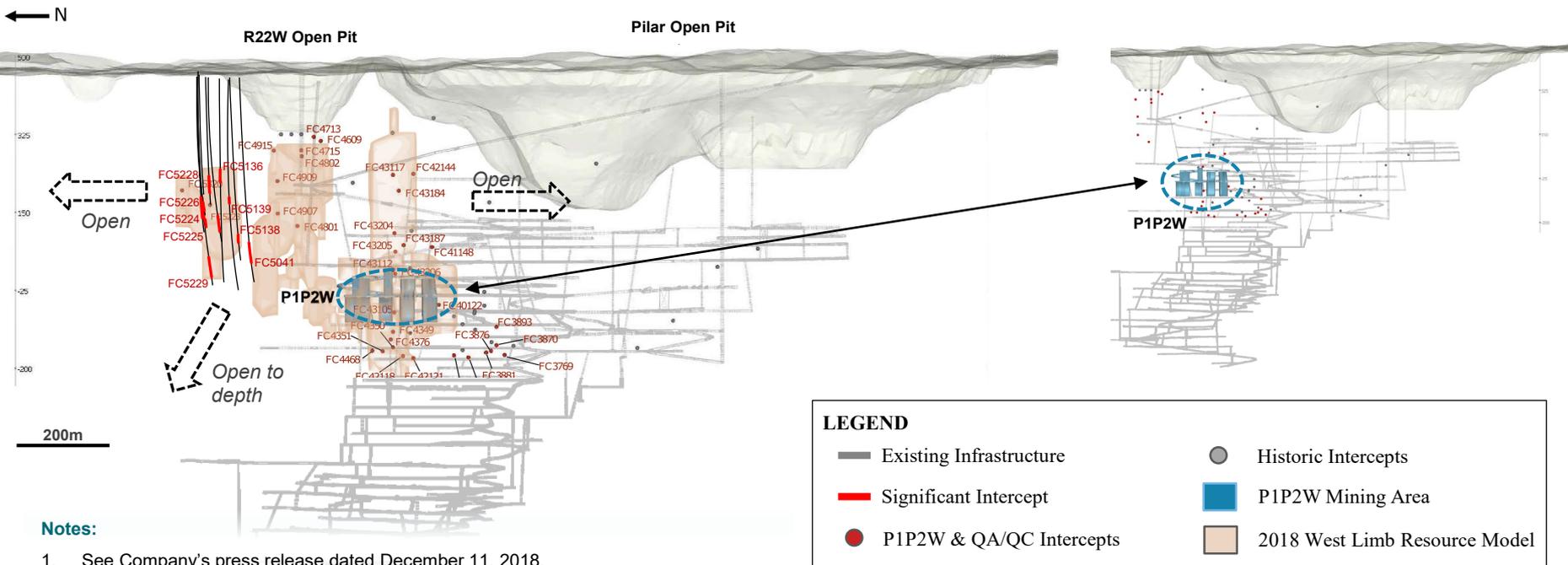
Note:

1. Mineral resource outline inclusive of mineral reserves. Please refer to Appendix and the Company's Vale do Curaçá Property Technical Report dated October 17, 2018 for additional scientific and technical information.

- West Limb discovery announced Q2, 2018
- Focus of drilling post discovery was on resource and reserve upgrade for mid-year update, and subsequent drilling has continued to confirm continuity to the north (*detail shown on next slide*)
- West Limb remains open to the north, south and to depth

West Limb Cross Section, 2018

West Limb Cross Section, 2017



- Drilling from underground continues to expand and upgrade West Limb resources (outside P1P2W) for mine planning
- Additional drilling will focus on extending West Limb to the north, south and to depth

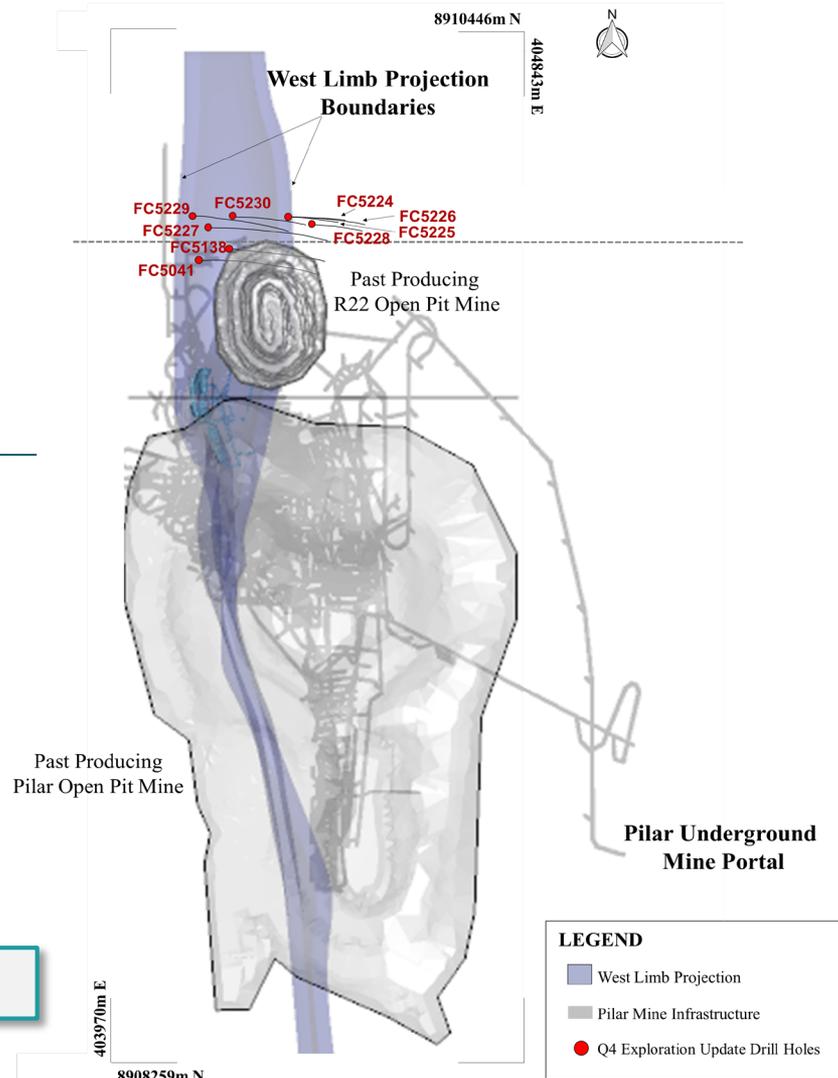
West Limb Significance

- Near-term focus on increasing production from higher levels of the mine – West Limb provides:
 - Less capital development
 - Downhill trucking to crusher
 - Cooler temperatures
 - Increased annual production from Pilar

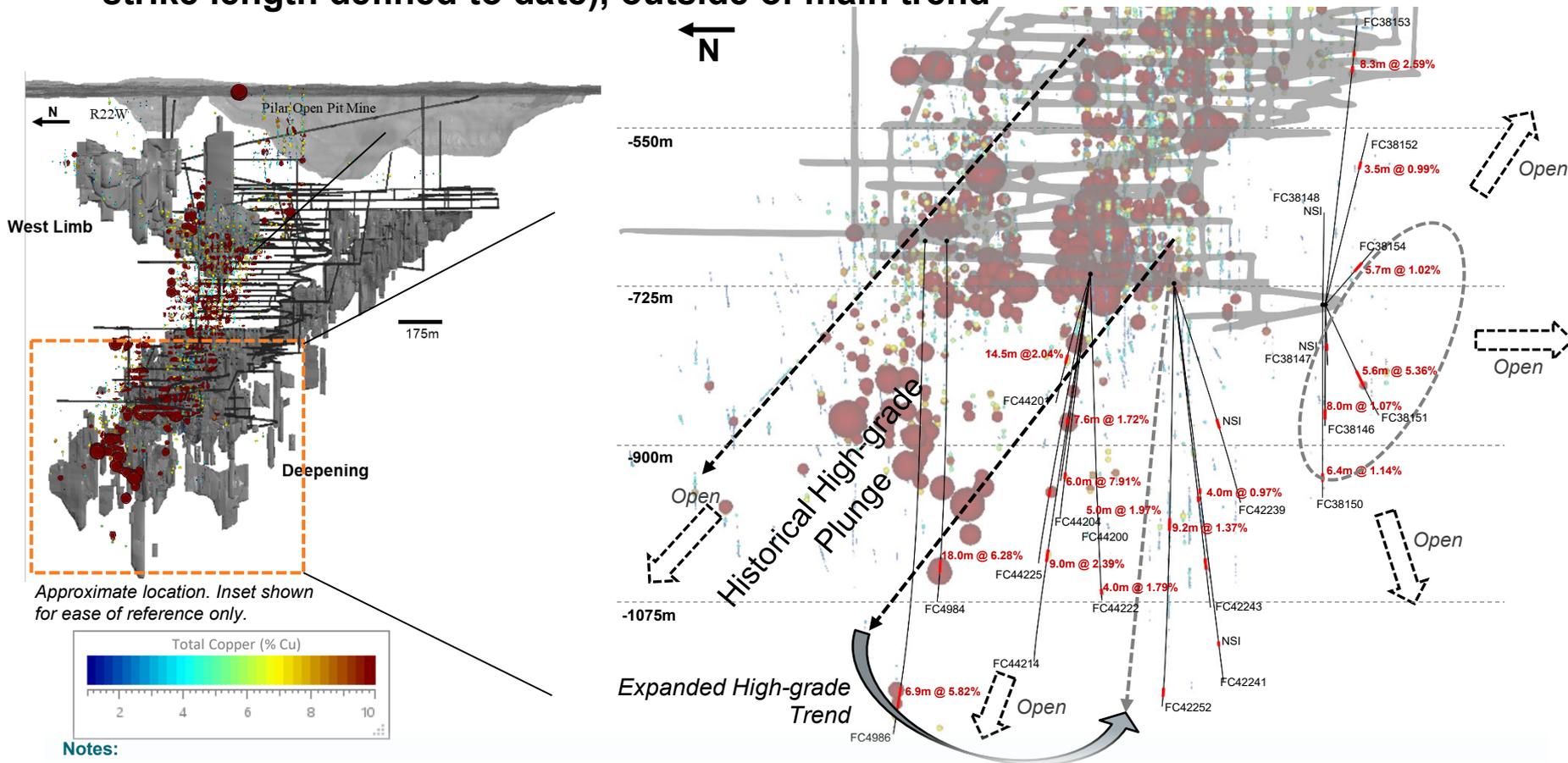
Adding high value tonnes to the Pilar Mine

Notes:

1. See Company's press release dated December 11, 2018. *Interpretation of mineralized continuity for illustrative purposes only. There is no assurance that mineralization will continue to follow the interpreted zone shown in areas for which mineralization has yet to be defined.*



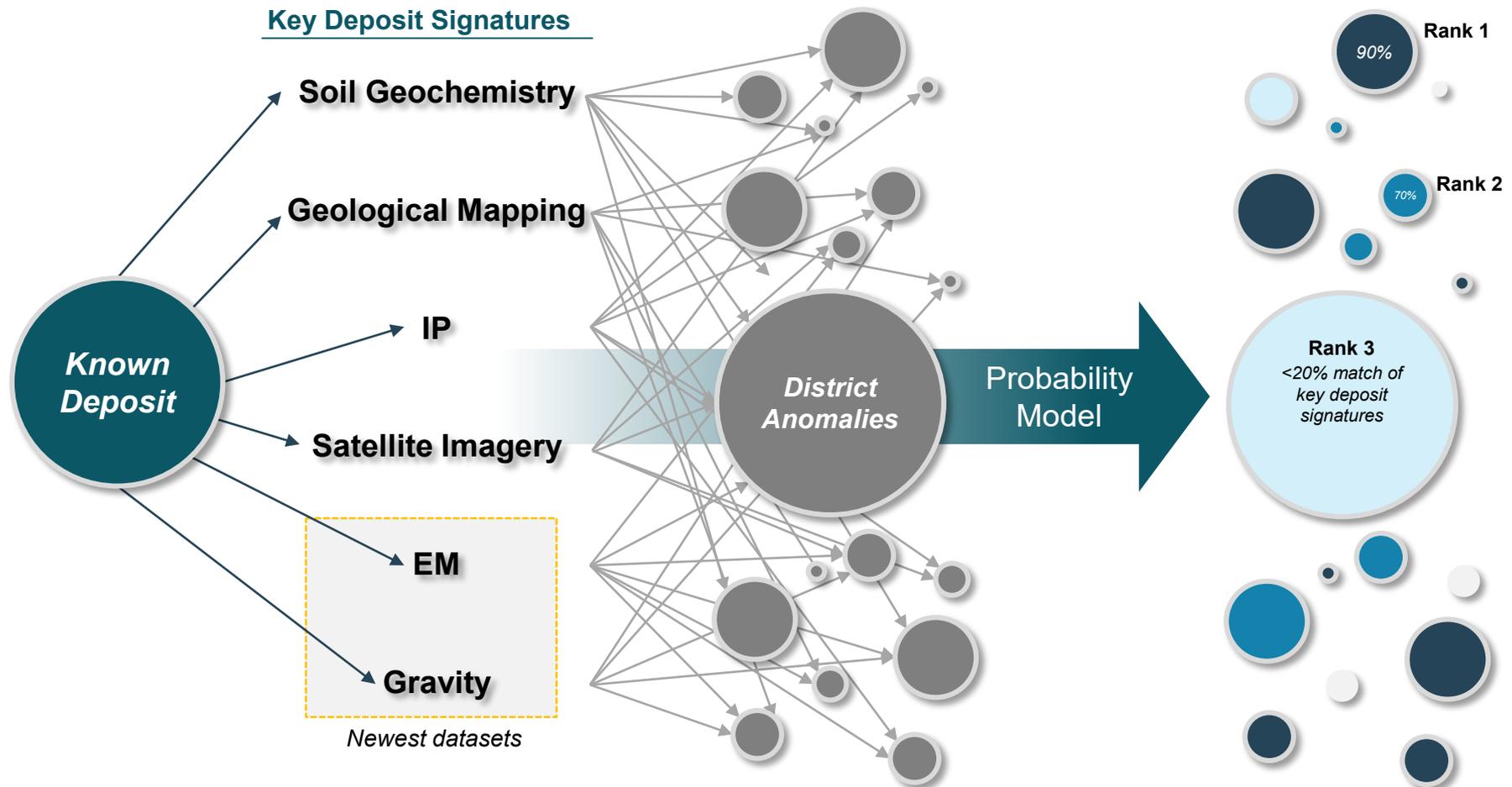
- Deepening extension largely targeting observed high-grade plunge to the north
- New extensional drilling suggests larger mineralized zone to the south (+100m in strike length defined to date), outside of main trend





Regional Exploration Methods

- Reverse engineering known deposit attributes to screen large new datasets
 - Create probability model for new discoveries by understanding known deposit signatures



Selected EM Picks

+35 additional datasets

Example

Bouguer Gravity Data

(Channel 30 Skytem)

Processed EM Data

(1VD histogram equalised)

Magnetic Inversion

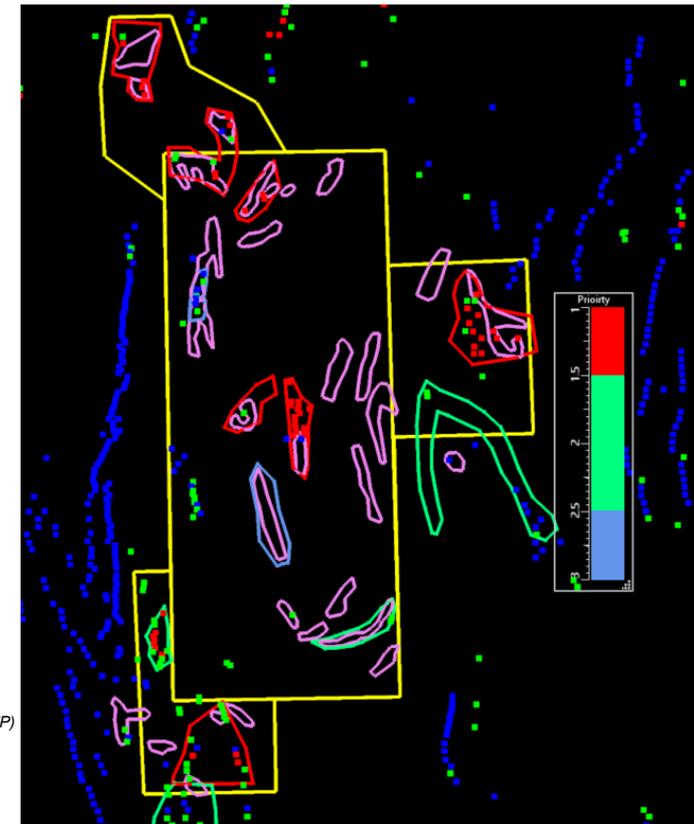
(SkyTEM channel HM_Z_ch30)

Vermelhos
Mine

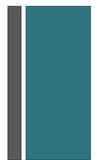
Magnetic Inversion (1VD RTP)

Geological Mapping

Vermelhos District Targets, Ranked



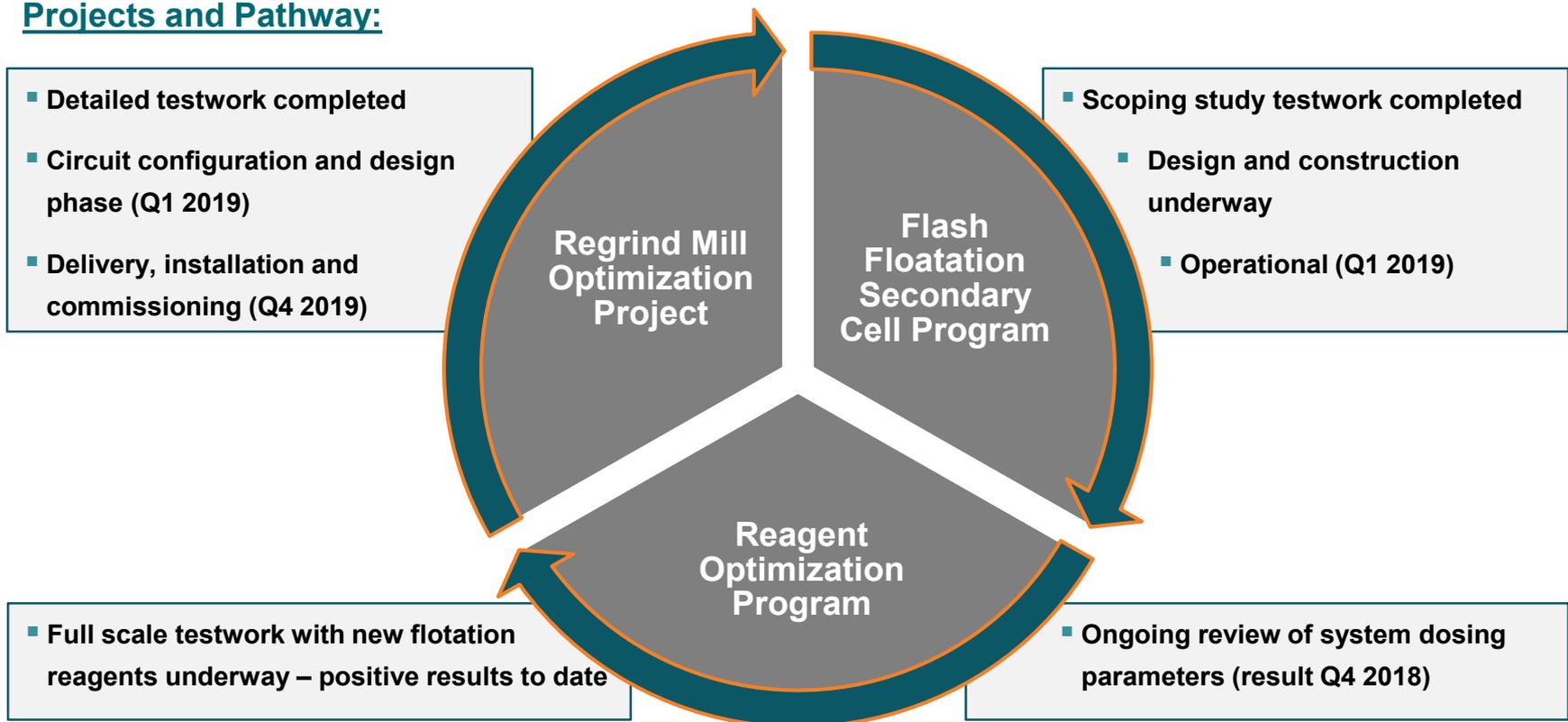
Not to scale. Target ranking for illustrative purposes only.



Appendix

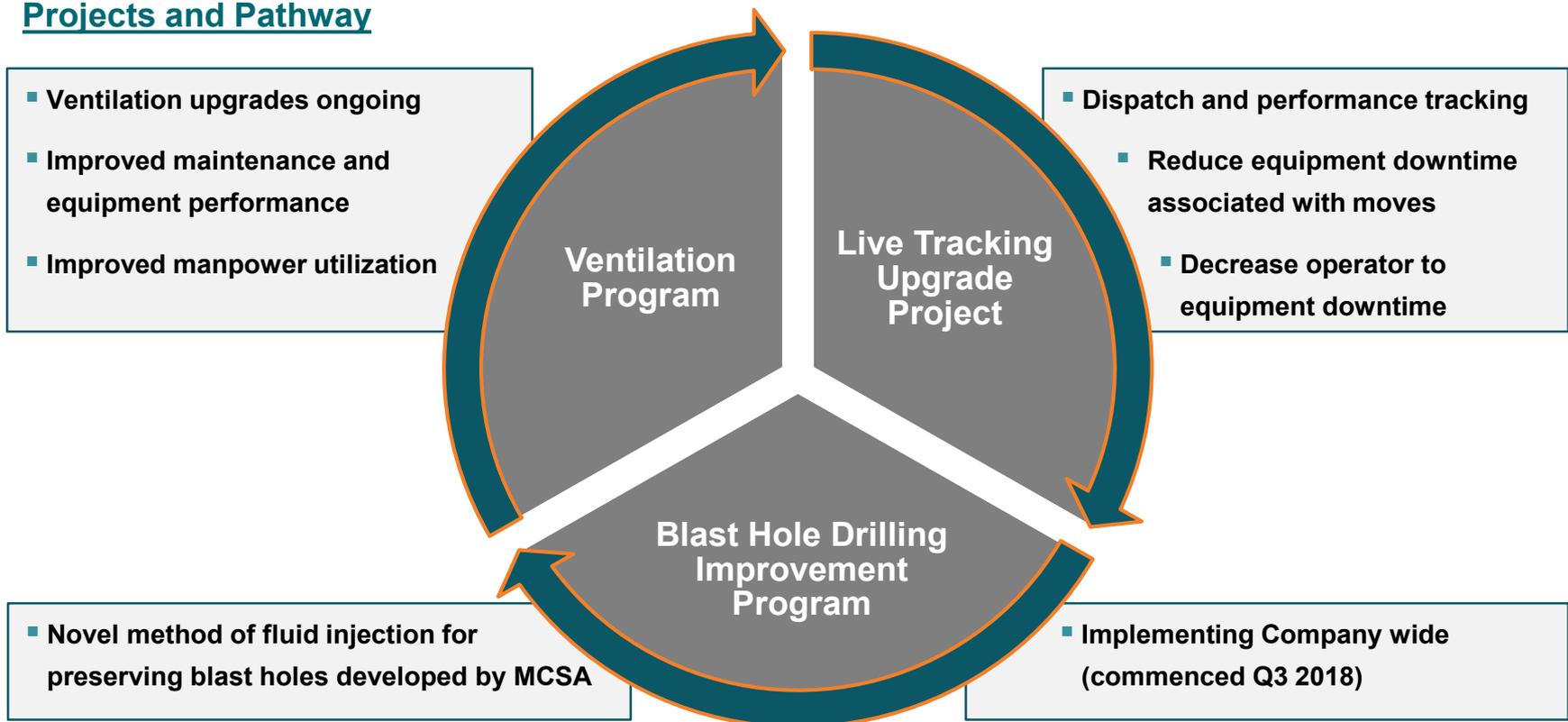
- Optimization projects started in 2017, combined with recent technical programs, have established a road map to increased recoveries
 - Projects underway show potential for a combined 4% - 6% increase in recoveries (relative to baseline of 2018 Guidance of 86%)

Projects and Pathway:



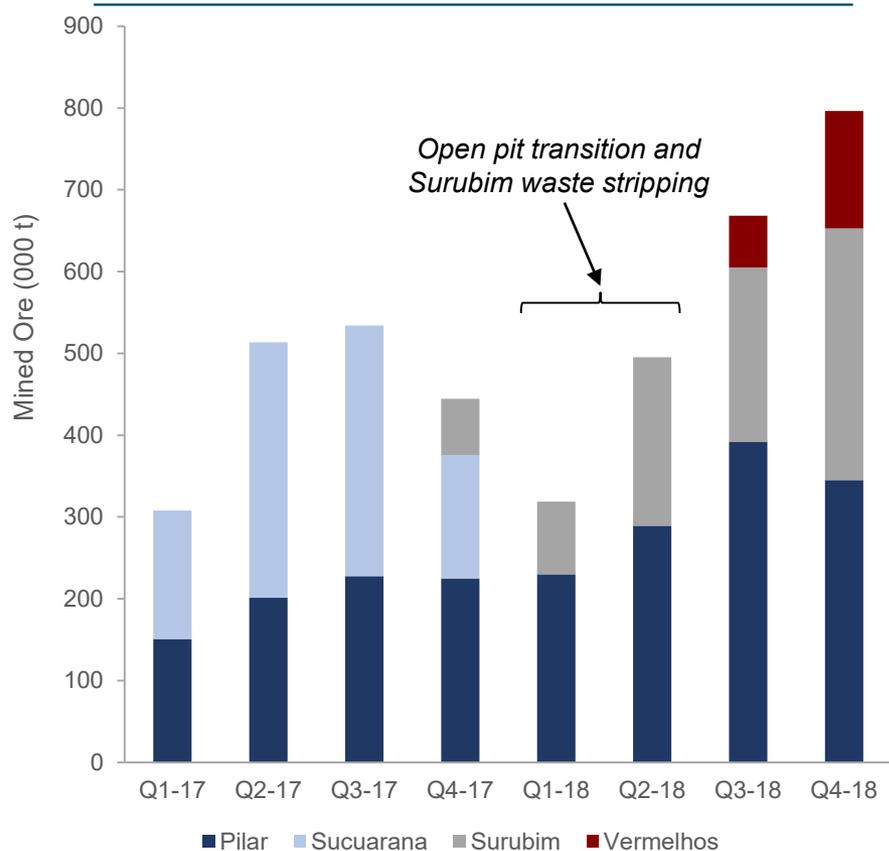
- **Initial mine optimization projects completed in 2018 (lower level maintenance facility and shotcrete plant) resulting in measurable improvements**
 - New projects underway centered upon greater equipment and manpower utilization, reduced maintenance, reduced downtime, improving efficiency and lowering costs

Projects and Pathway



- Capital investments in Pilar and Vermelhos paying off with quarter-on-quarter increases in tonnes delivered and copper produced in 2018

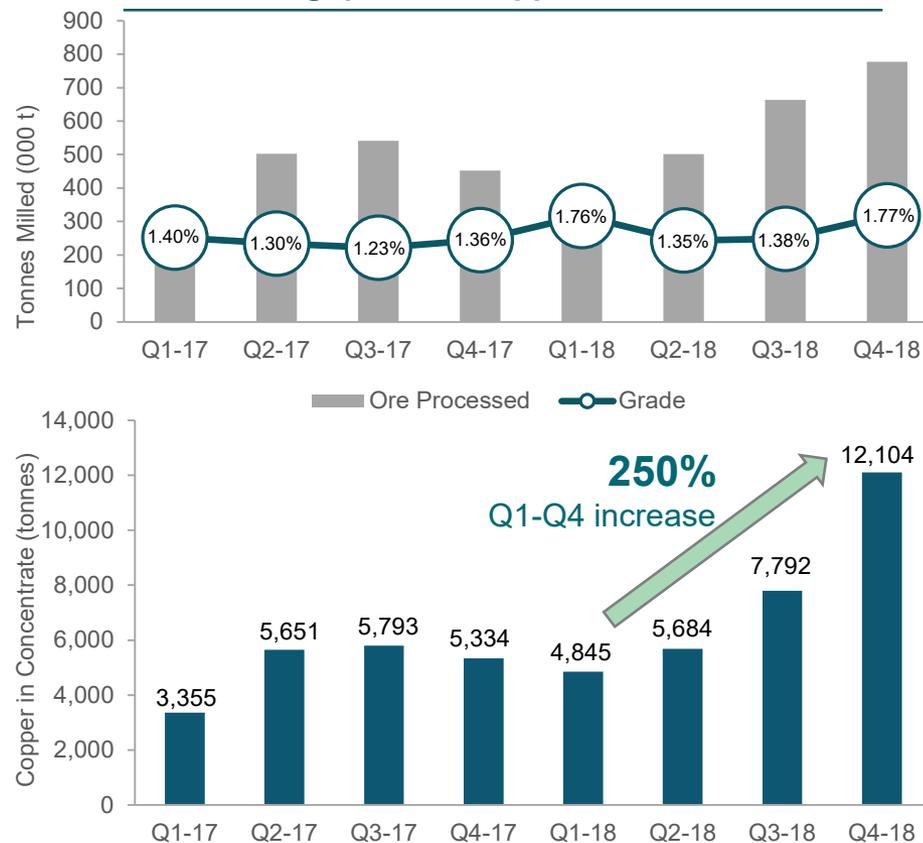
Mine Production



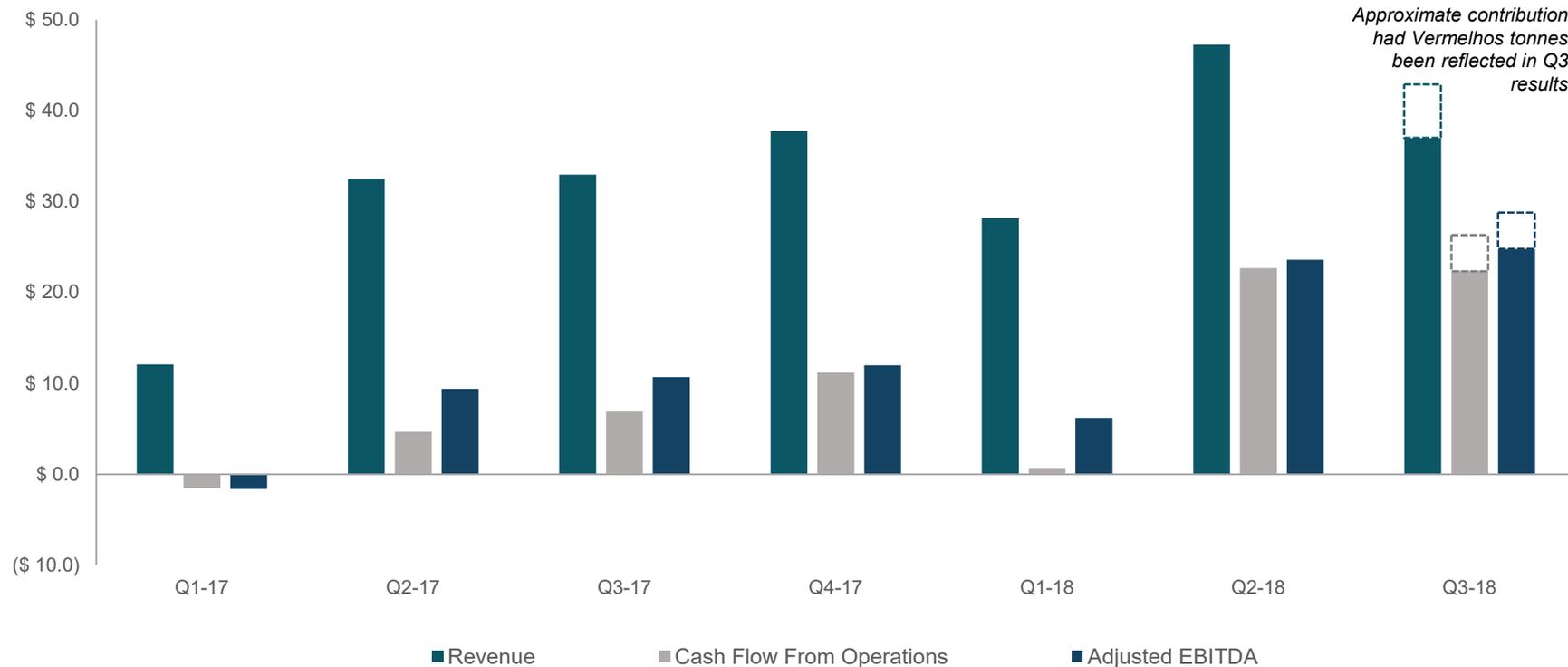
Note:

- Past performance is not a guarantee of future results. Please refer to the Company's SEDAR filings including without limitation press releases and the AIF for additional detail regarding past performance.

Plant Throughput and Copper Production



■ Transforming financial performance of the Company with operational results

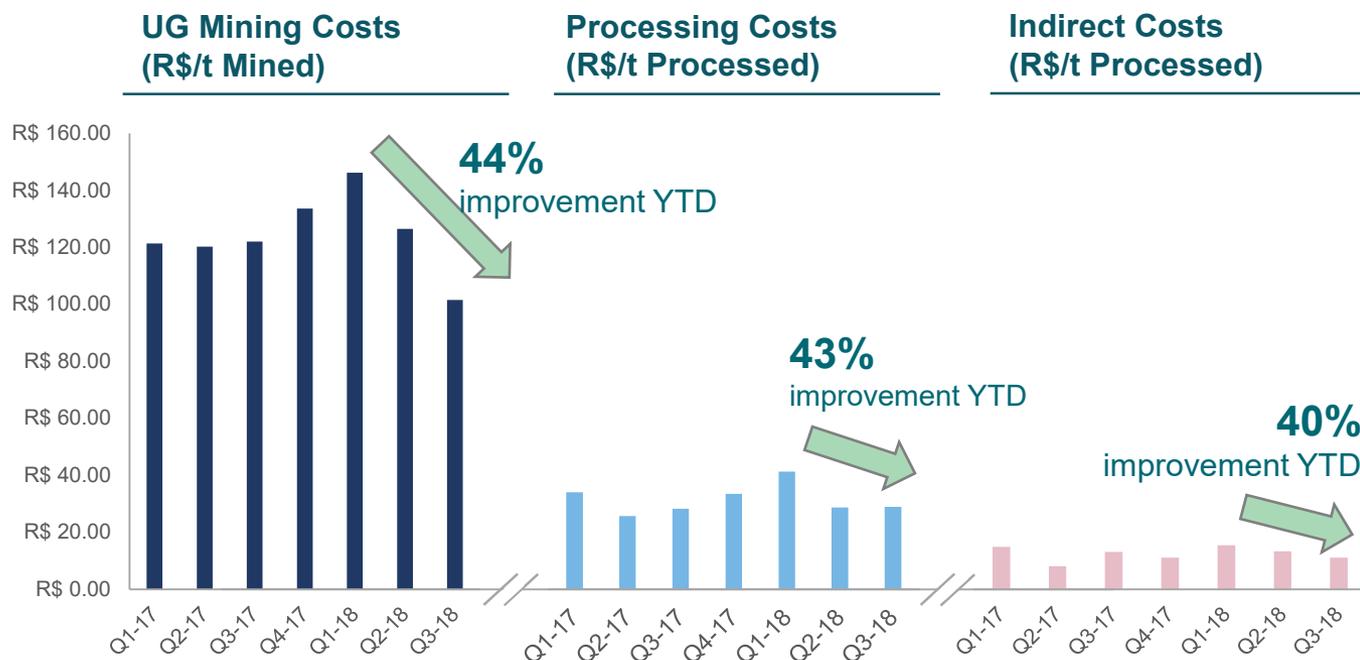


Financial Performance (\$US million)	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18
Revenue	\$ 12.1	\$ 32.5	\$ 33.0	\$ 37.8	\$ 28.2	\$ 47.3	\$ 37.0
Cash Flow From Operations	(\$ 1.5)	\$ 4.7	\$ 6.9	\$ 11.2	\$ 0.7	\$ 22.7	\$ 22.4
Adjusted EBITDA ^[1]	(\$ 1.6)	\$ 9.4	\$ 10.7	\$ 12.0	\$ 6.2	\$ 23.6	\$ 24.8

Note:

1. Past performance is not a guarantee of future results. Please refer to the Company's SEDAR filings, including without limitation press releases and the AIF for additional detail regarding past performance as well as a discussion of risk factors. Adjusted EBITDA is a non-IFRS measure. Please refer to the Company's MD&A for the relevant period shown for additional discussions on non-IFRS measures.

- Management initiatives and capital investments being made throughout the organization, continue to result in increased productivity and unit cost improvement



Improvements translate to achieving first quartile C1 Cash Costs

KPIs	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18
UG Mining Cost (R\$/t mined)	R\$ 121.38	R\$ 120.23	R\$ 122.03	R\$ 133.68	R\$ 146.17	R\$ 126.49	R\$ 101.58
Processing Cost (R\$/t processed)	R\$ 34.74	R\$ 26.22	R\$ 28.86	R\$ 34.23	R\$ 42.15	R\$ 29.28	R\$ 29.57
Indirect Cost (R\$/t processed)	R\$ 14.95	R\$ 8.08	R\$ 13.17	R\$ 11.06	R\$ 15.50	R\$ 13.35	R\$ 11.09

Note:

- Past performance is not a guarantee of future results. Please refer to the Company's SEDAR filings, including without limitation press releases and the AIF for additional detail regarding past performance as well as a discussion of risk factors.

MCSA Mining Complex | Reserves & Resources

Mine	Category	Proven & Probable Reserves		
		Tonnage (kt)	Grade (Cu %)	Contained Cu (kt)
Pilar UG Mine	Proven	6,969	1.71	119.3
	Probable	3,998	1.74	69.4
Vermelhos UG Mine	Proven	3,394	3.30	112.1
	Probable	528	2.36	12.5
Vermelhos West	Proven	815	0.70	5.7
	Probable	269	0.69	1.9
Surubim Mine	Proven	2,130	0.95	20.2
	Probable	3	0.80	0.0
R22W OP	Proven	283	0.53	1.5
	Probable	47	0.46	0.2
Total	Proven	13,591	1.90	258.8
	Probable	4,846	1.73	84.0
	Proven & Probable	18,437	1.86	342.8

Mine	Category	Measured & Indicated Resources		
		Tonnage (kt)	Grade (Cu %)	Contained Cu (kt)
Pilar UG Mine	Measured	15,595	1.92	300.2
	Indicated	9,254	1.85	171.5
	Measured & Indicated	24,849	1.90	471.6
	Inferred	1,761	2.07	36.4
Vermelhos UG Mine	Measured	3,039	4.12	125.1
	Indicated	1,523	1.97	30.1
	Measured & Indicated	4,562	3.40	155.2
	Inferred	1,995	1.19	23.6
Vermelhos West	Measured	5,502	0.60	33.0
	Indicated	2,645	0.60	15.9
	Measured & Indicated	8,147	0.60	48.9
	Inferred	2,490	0.83	20.7
Surubim Mine	Measured	4,064	1.03	41.9
	Indicated	497	1.03	5.1
	Measured & Indicated	4,561	1.03	47.0
	Inferred	83	0.85	0.7
R22W OP	Measured	306	0.54	1.7
	Indicated	2	0.79	0.0
	Measured & Indicated	308	0.54	1.7
	Inferred	-	-	-
Total Resources	Measured	28,506	1.76	501.8
	Indicated	13,921	1.60	222.6
	Measured & Indicated	42,428	1.71	724.4
	Inferred	6,328	1.29	81.4

Note:

1. Mineral resources which are not mineral reserves do not have demonstrated economic viability.

MCSA Mining Complex Mineral Reserves Notes:

1. Effective Date of August 1, 2018.
2. Mineral Reserves included within stated Mineral Resources. All figures have been rounded to reflect the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. The Mineral Reserve estimates are prepared in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves, and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral Reserves are based on a long-term copper price of US\$2.75 per pound ("lb"), and a USD:BRL foreign exchange rate of 3.20. Mineral Reserves are the economic portion of the Measured and Indicated Mineral Resources. Mineral Reserve estimates include mining dilution at zero grade. Mining dilution and recovery factors vary for specific reserve sources and are influenced by factors such as deposit type, deposit shape, stope orientation and selected mining method. Please refer to the technical report dated October 17, 2018 with an effective date of August 1, 2018 entitled "2018 Updated Mineral Resources and Mineral Reserves Statements of Mineração Caraíba's Vale do Curaçá Mineral Assets, Curaçá Valley", prepared by Rubens Jose De Mendonça, MAusIMM, of Planminas and Porfirio Cabaleiro Rodrigues, MAIG, Fábio Valério Câmara Xavier, MAIG, and Bernardo Horta de Cerqueira Viana, MAIG, all of GE21 for additional technical information.

MCSA Mining Complex Mineral Resources Notes:

1. Effective Date of July 1, 2018 for Pilar and Surubim Mines, May 31, 2018 for Vermelhos mine, Vermelhos West and R22W
2. Presented Mineral Resources inclusive of Mineral Reserves. All figures have been rounded to reflect the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Cut-off value of 0.68% copper for underground resources and 0.18% copper for open pit resources.
4. Mineral Resources estimated by ordinary kriging inside 5m by 5m by 5m blocks. Please refer to the technical report dated October 17, 2018 with an effective date of August 1, 2018 entitled "2018 Updated Mineral Resources and Mineral Reserves Statements of Mineração Caraíba's Vale do Curaçá Mineral Assets, Curaçá Valley", prepared by Rubens Jose De Mendonça, MAusIMM, of Planminas and Porfirio Cabaleiro Rodrigues, MAIG, Fábio Valério Câmara Xavier, MAIG, and Bernardo Horta de Cerqueira Viana, MAIG, all of GE21 for additional technical information.

Boa Esperança Mineral Reserves Notes:

1. Effective Date of June 1, 2017.
2. Mineral Reserves included within stated Mineral Resources.
3. Open pit reserves assume full mine recovery.
4. Open pit reserves are diluted along lithological boundaries and assume selective mining unit of 2.5 m x 2.5 m x 5 m.
5. The strip ratio was calculated to be 1.93 (waste to ore).
6. Reserves are based on a price of US\$7,000/t LME Cu throughout the life of the mine.
7. Reserves are based on a cut-off grade of 0.28% Cu.
8. Mineral Reserve tonnage and contained metal have been rounded to reflect the accuracy of the estimate. As a result of this rounding, the numbers may not add up.
9. Contained copper is reported as in-situ and does not include process recovery.
10. The Mineral Reserves estimate was calculated by Rubens Mendonça, BSc, MBA, Chartered Professional Member of the AusIMM, Mining Manager of SRK Consultores do Brasil, in accordance with the standards set out in CSA, NI 43-101 and generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. Please refer to the technical report, dated September 7, 2017 with an effective date of June 1, 2017, entitled "Feasibility Study Technical Report for the Boa Esperança Copper Project, Pará State, Brazil", prepared by Carlos Barbosa, MAIG, Rubens Mendonça, MAusIMM and Girogio di Tomi, MAusIMM, all of SRK Brazil for additional technical information.

Boa Esperança Mineral Resources Notes:

1. Effective Date of June 1, 2017.
2. Presented Mineral Resources inclusive of Mineral Reserves.
3. Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate. As a result of this rounding, the numbers may not add up.
4. Resources are stated at a cut-off grade of 0.2% Cu and are fully contained within an optimized pit shell.
5. Resources are based on a copper price of US\$4.00/lb.
6. The Mineral Resources estimate was calculated by Rafael Russo Sposito, Senior Geologist of SRK Consultores do Brasil, supervised by SRK Principal Resource Geologist Carlos César Barbosa, in accordance with the standards set out in CSA, NI 43-101 and generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. Please refer to the technical report, dated September 7, 2017 with an effective date of June 1, 2017, entitled "Feasibility Study Technical Report for the Boa Esperança Copper Project, Pará State, Brazil", prepared by Carlos Barbosa, MAIG, Rubens Mendonça, MAusIMM and Girogio di Tomi, MAusIMM, all of SRK Brazil for additional technical information.