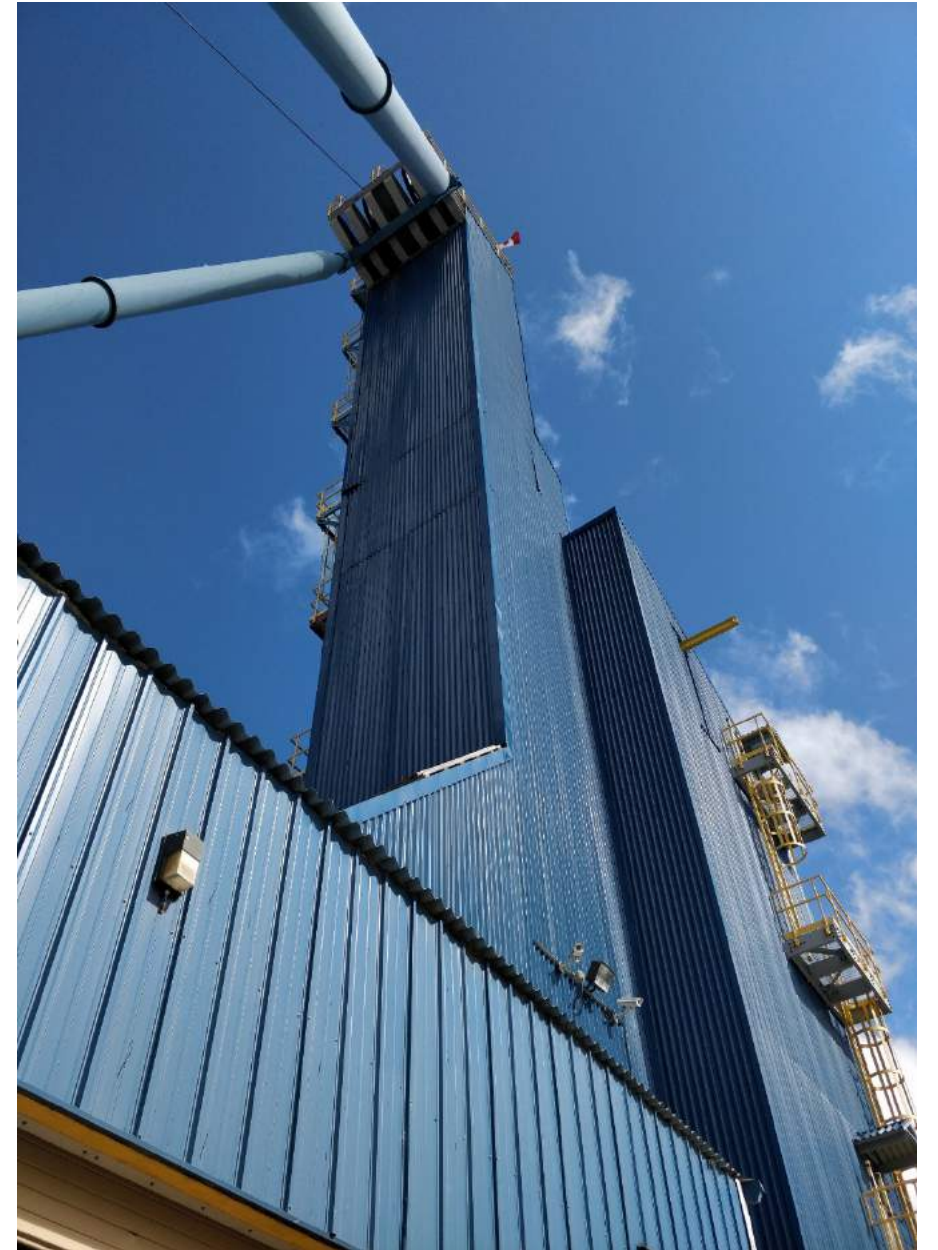


RUBICON MINERALS

**Phoenix Gold Project Feasibility Study
on track for H2/2020**

Corporate Presentation

June 2020



Cautionary Statements Regarding Forward-Looking Statements and Cautionary Notes

Cautionary Statement regarding Forward-Looking Statements and other Cautionary Notes

All statements, other than statements of historical fact, contained or incorporated by reference in this presentation, including any information as to the outlook and future performance of the Company, constitute “forward-looking statements” and “forward looking information” (collectively, “forward-looking statements”) within the meaning of applicable Canadian and United States securities legislation. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as “anticipate”, “believes”, “conceptual”, “contemplate”, “could”, “demonstrates”, “development”, “emerging”, “estimate”, “expect”, “exploration”, “feasibility”, “focus”, “future”, “goal”, “intends”, “may”, “outlook”, “plan”, “potential”, “profile”, “project”, “Preliminary Economic Assessment” (or “PEA”), “risk”, “should”, “strategic”, “study”, “target”, “uncertainties”, “upgrade”, “view” and “will”, or variations of such words, and similar such words, expressions or statements that certain actions, events or results can, could, may, should, will (or not) be achieved or occur in the future. In some cases, forward-looking information may be stated in the present tense, such as in respect of current matters that may be continuing, or that may have a future impact or effect. Forward-looking statements include statements regarding the use of proceeds from the February 2020 flow-through common share offering including required renunciation of CEE; potential for future exploration success at the Company and the Phoenix Gold Project; Mineral Resource estimates (including the current 2020 Mineral Resource Estimate, converting, upgrading (or converting) and/or expanding or increasing Mineral Resource estimates); expected or proposed exploration and development activities at the McFinley and Pen Zones, “Explore Target” areas and other regional exploration targets, and any impact of such activities; geological and structural modelling; the details of the 2019 PEA (including economics, such as return on capital (including IRR) and NPV, free cash flow, gold production (payable or otherwise), capital and operating costs, life of mine (or LOM) and any conceptual or contemplated mine plans, estimated tonnes and grade, mineable inventory, construction period and other results of the 2019 PEA, all of which are estimates only); feasibility and potential commercial viability of the Phoenix Gold Project, completion of the anticipated feasibility study (including its delivery) and exploration programs, including continuation of related work and the sufficiency of the funding thereof; statements regarding the impact of health, safety and security measures or protections, and other protocols, implemented by the Company’s in response to the quickly evolving Coronavirus (or COVID-19) situation, and the Company’s ability to respond in the future to that situation, including the implementation any new such or other measures or protections and the impact thereof. Forward-looking statements are based on the assumptions, estimates, expectations and opinions of management, which management considers reasonable and represent its best judgment based on available facts, as of the date such statements are made. If such assumptions, estimates, expectations and opinions prove to be incorrect, actual and future results may be materially different than expressed or implied in the forward-looking statements. The assumptions, estimates, expectations and opinions referenced, contained or incorporated by reference in this presentation which may prove to be incorrect include those set forth herein, and in the Company’s Management’s Discussion and Analysis for the year ended December 31, 2019 (the “2019 MD&A”) and the accompanying financial statements, the 2019 PEA and the 2020 Technical Report, as well as: (1) permitting, exploration and development at the Phoenix Gold Project being consistent with the Company’s current expectations including, without limitation, the maintenance of existing permits, licenses and other approvals and the timely receipt of other permits, licenses and other approvals necessary from time to time; (2) political and legal developments in any jurisdiction in which the Company operates being consistent with its current expectations; (3) the completion of exploration programs and studies, including the anticipated feasibility study on the Phoenix Gold Project, on the timelines currently expected (notwithstanding the risks, uncertainties, contingencies and other factors described below including the quickly evolving COVID-19 coronavirus (“COVID-19”) situation), and the results being consistent with the Company’s current expectations; (4) the exchange rate between the Canadian dollar and the U.S. dollar being approximately consistent with current levels; (5) certain price assumptions for gold; (6) prices for diesel, natural gas, electricity and other key supplies being approximately consistent with current levels; (7) the accuracy of the 2020 Mineral Resource Estimate (including but not limited to ore tonnage and ore grade estimates), the 2019 PEA and 2019 Mineral Resource Estimate relied upon therein, and the Company’s internal models; (8) labour and materials costs being consistent with the Company’s current expectations; and (9) the Company’s ability to meet current and future debt obligations or to complete future financings to raise additional capital as and when needed. Forward-looking statements are inherently subject to significant known and unknown business, economic, competitive and other risks, uncertainties and other factors which may cause the actual results, performance or achievements of Rubicon to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others: gold price fluctuations; possible variations in mineralization, grade or recovery or throughput rates; uncertainty of Mineral Resource estimates, inability to realize exploration potential, mineral grades and mineral recovery estimates; actual results of exploration activities; delays in completion of exploration plans for any reason including insufficient capital; labour issues; suppliers and service providers, including labour shortages and/or work curtailments or stoppages as may result from the Coronavirus (or COVID-19); conclusions of economic or geological evaluations including the 2019 PEA and the anticipated Feasibility Study (including the timing of its delivery); changes in project parameters as plans continue to be refined; failure of equipment or processes to operate as anticipated; accidents and other risks of the mining industry; delays and other risks related to operations; the ability to obtain and maintain permits and other regulatory approvals (as well as the timing and terms thereof) and to comply with such permits, approvals and other applicable regulatory requirements; the ability of Rubicon to comply with its obligations under material agreements including the Loan Facility and other financing agreements; the availability of financing for proposed programs and working capital requirements on reasonable terms and in a timely manner; the ability to meet, repay or refinance current and future debt obligations on reasonable terms and in a timely manner; risks associated with the ability to retain key executives and key operating personnel; cost of environmental expenditures and potential environmental liabilities; relations with local communities including First Nations; failure of plant, equipment or processes to operate as anticipated; cost of supplies; market conditions and general business, economic, competitive, political and social conditions; our ability to generate sufficient cash flow from operations or obtain adequate financing to fund our capital expenditures and working capital needs and meet our other obligations; the volatility of our stock price, and the ability of our common stock to remain listed and traded on the TSX; epidemics, pandemics and other public health crises, including COVID-19 and similar viruses; and the “Risk Factors” in the Company’s annual information form dated March 27, 2020 (“2020 AIF”) as well as the risks, uncertainties, contingencies and other factors identified in the 2020 Technical Report and the 2019 MD&A and accompanying financial statements, all of which are available under the Company’s profile at www.sedar.com and on its website at www.rubiconminerals.com. The foregoing list of risks, uncertainties, contingencies and other factors is not exhaustive; readers should consult the more complete discussion of Rubicon’s business, financial condition and prospects that is provided in the 2020 AIF. The forward-looking statements contained or incorporated by reference herein are expressly qualified by these Cautionary Statements as well as the Cautionary Statements in the 2019 MD&A, the 2020 AIF and the 2020 Technical Report. Forward-looking statements contained herein are made as of the specified and the Company disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable laws.

Qualified Person

The content of this corporate presentation relating to geology and exploration has been read and approved by George Ogilvie, P.Eng., President, CEO, and Director, who is a Qualified Person as defined by NI 43-101.

Cautionary Note to U.S. Readers Regarding Estimates of Measured, Indicated and Inferred Resources

See endnote 3 to this presentation.

The Rubicon Minerals Advantage

Experienced Management Team: Management team with a proven history of operating and turning around underground operations in Canada

Robust 2019 PEA¹ & Significant New Mine Infrastructure: +90% after-tax IRR, +C\$370M after-tax NPV_{5%}, (based on spot gold prices), with a fully operational 1,800-tpd mill 14km of U/G development, surface infrastructure in place and C\$690M in tax-loss pools

2nd Largest Land Package in Red Lake: More than 28,000 hectares, second largest exploration land package (~40%) in the prestigious Red Lake Gold Mining Camp



COVID-19 Precautionary Measures¹⁹

Precautionary measures implemented since March 12, 2020 to enhance the safety of its employees:

Using guidance from the Federal and Provincial Governments, measures include suspending non-essential travel, social distancing and working remotely for some employees, self-isolation for employees that have travelled, and additional sanitizers and cleansers at site

Phoenix Gold Project Feasibility Study remains on track for H2/2020:

Consultants working on Feasibility Study continue to work remotely and deliverables have not been impacted. Drilling activities at F2 Zone, McFinley, and Pen Zone are ongoing with additional safety measures in place

Cash balance ~C\$13.5M:

Rubicon has ample funding to complete the Feasibility Study and exploration programs for this year and into 2021

(19) Refer to endnote #19 for further details

Capital Structure and Shareholder Info

Strong institutional shareholder support

Balance Sheet and Capital Structure (Jun 1/20)

Cash balance (unaudited):	~C\$13.5 M
Sprott Bridge Loan (Dec 31/21) @ 9% avg. interest	C\$14.2 M
Lease liabilities	C\$0.7 M
Shares outstanding	95,705,071
Options/Warrants outstanding**	8,029,758

Market Data (May 29/20)

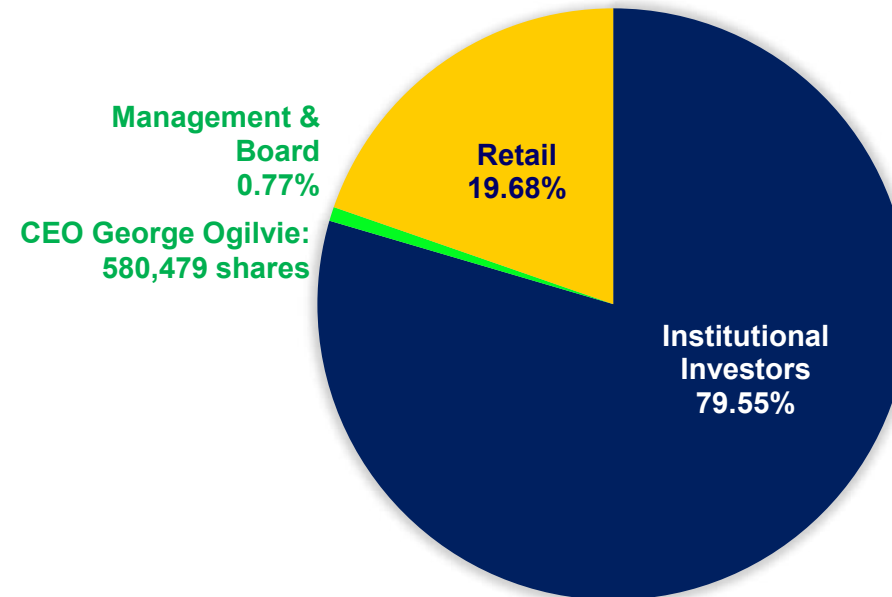
RMX share price:	C\$1.63
Market capitalization:	C\$156.0 M
Avg. 30-day daily trading volume (TSX & OTC markets)	235,125

Analyst Coverage

(Target price range: C\$2.00-C\$3.60)

BMO	Andrew Mikitchook
TD Securities	Arun Lamba
Laurentian Bank	Ryan Hanley
Mackie Research	Stuart McDougall
Industrial Alliance	George Topping
Canaccord Genuity	Tom Gallo
Cormark	Brock Colterjohn
Stifel GMP	Tyron Breytenbach

Equity ownership breakdown



Institutional shareholders include:

Franklin Templeton	Sun Valley
CPPIB	Royal Gold
Donald Smith & Co.	Greywolf
Mackenzie Financial	Sprott Asset Management
Ruffer	Earth Resources
Libra	SSI Asset Management
Wexford	

**Includes Sprott Lending warrants

(18) Refer to endnote #18 for further details

2019 PEA¹: Robust Economic Potential

Manageable initial capital to commercial production

Economics (Base Case):	2019 PEA Conceptual Project Life of Mine ("LOM")	Initial Capital 20-month ramp-up cost estimates to commercial production	Pre-CP C\$ millions
After-tax IRR ("IRR")(%)	40.2%	U/G development & infrastructure	\$43.2
After-tax NPV _{5%} ("NPV")(C\$)	C\$135.2M	Equipment	\$16.9
Estimated free cash flow (net of Initial capex)	C\$191.5M	Surface and mill	\$22.8
Exchange rate (C\$/US\$)	0.7519	Contingency (18%)	\$18.3
LT gold price assumption (US\$)	US\$1,325/oz	Total Initial Capital	\$101.2
LT gold price assumption (C\$)	C\$1,762/oz	<i>Base case C\$1,762/oz gold price:</i>	
		Capitalized operating costs	\$45.7
		~44koz gold sales	\$74.5*
		Net positive cash flow	\$28.8
		Net Pre-CP Capital (Initial capital – Net positive cash flow)	\$72.4
		Projected Funding Requirement (incl. 18% contingency)	\$80.9
		<i>Assuming C\$2,400/oz gold price:</i>	
		~44koz gold sales	\$102.5*
		Net positive cash flow	\$56.4
		Net Pre-CP Capital	\$46.1

- **U/G development costs** derived from actual costs
- **~44koz** of potential production during Pre-CP, commencing 8 months from start of Pre-CP
- **Projected Funding Requirement** could potentially be lowered by **~C\$25 million** at spot gold price and exchange rates

2019 PEA^{1,3}: Robust Economic Potential

Sensitivities

After-Tax IRR (%)/NPV (C\$ millions) – Sensitivities to gold price and US\$/C\$ exchange ratio

US\$/C\$ Exchange ratio	Gold Price (US\$)					
	US\$1,200	US\$1,325 (base case)	US\$1,400	US\$1,500	US\$1,600	US\$1,700
0.83	9.3% / \$14.9	24.4% / \$71.1	32.8% / \$104.8	43.5% / \$149.7	54.5% / \$197.1	64.6%/\$242.2
0.81	13.1% / \$28.4	28.2% / \$86.0	36.6% / \$120.5	47.4% / \$166.5	58.5% / \$214.9	68.8%/\$261.1
0.79	18.0% / \$46.4	33.1% / \$105.8	41.6% / \$141.5	52.6% / \$189.0	62.7% / \$233.6	73.1%/\$281.0
0.77	21.5% / \$59.9	36.6% / \$120.7	45.3% / \$157.2	57.4% / \$205.8	67.0% / \$253.3	77.7%/\$301.9
0.7519 (base case)	25.0% / \$73.4	40.2% / \$135.2	48.9% / \$172.9	60.2% / \$222.6	71.2% / \$272	82.0%/\$321.8
0.73	29.5% / \$91.3	44.8% / \$155.4	53.7% / \$193.8	65.2% / \$245.1	76.4% / \$295.9	87.4%/\$357.2
0.71	33.9% / \$109.3	49.4% / \$175.2	58.4% / \$214.8	70.1% / \$267.5	81.4% / \$319.0	92.7%/\$371.7

Economics enhanced at current ~**C\$2,400/oz** Spot Gold Price and 0.72 USD/CAD exchange rate⁵

- ~**C\$500M** in LOM Potential Free Cash Flow (net of Initial Capex)
- An additional ~**C\$25M** of potential revenue from the 44koz conceptually produced during ramp-up (potentially reducing Funding Requirement)

Refer to endnote #1 for further details
 (3) Refer to endnote #3 for further details
 (5) Refer to endnote #5 for further details

Conceptual Asset Values Mitigate Downside Risk

Conceptual values of Rubicon assets compared to the Company's market cap

2019 PEA Economic estimates^{1,3}:

After-tax IRR 40.2%

~C\$300M in existing hard-assets including 1,800 tpd mill

Red Lake Properties (28,266 ha):

Based on precedent land transactions in Red Lake, Rubicon's Red Lake Properties could have a conceptual value of between C\$30-50 M

C\$521M Estimated tax loss pools remaining

(after 2019 PEA conceptual LOM):

Potential downside value of C\$5-10 M

Cash balance:

~C\$13.5 M

Phoenix Gold Project NPV_{5%}
C\$135.2M
(C\$371.7M @ US\$1,700/oz gold)

Red Lake Properties
~C\$30-50M

Financial assets
~C\$20-25M

Sprott Lending LT Debt:
C\$12M with 5% coupon (payment-in-kind)

Long-term debt
(C\$14.7M)

Rubicon market cap: **C\$156 M***

- Value of hard assets provide significant security over the loan size
- Company in discussions with numerous groups to restructure loan

(1) Refer to endnote #1 for further details
(3) Refer to endnote #3 for further details

*As of May 29, 2020

Phoenix Gold Project: Infrastructure and Tax Pools

>C\$770 million spent on infrastructure and development



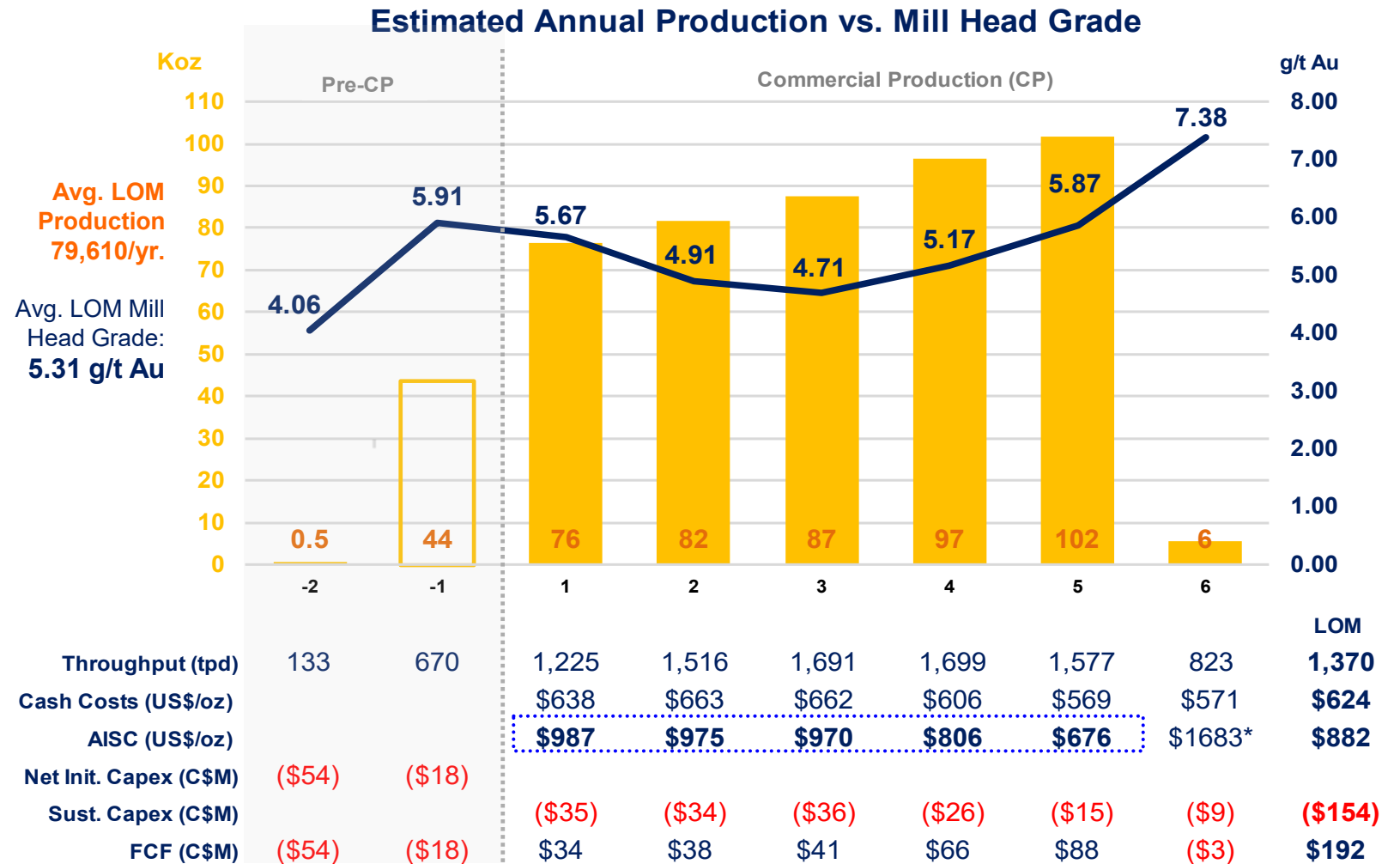
- **1,800 tpd mill**; permitted 1,250 tpd
- 95.1% recoveries during >40kt bulk sample program in 2018
- Substantially permitted

	Capital spent/ Tax pools (C\$)
Mill construction	~\$150 M
Surface construction	~\$95 M
U/G exploration, development, sampling, etc.	~\$525 M
Total	\$770 M
Tax loss pools (June 2019)	\$690 M
	\$346M on the Phoenix Gold Project

2019 PEA^{1,3}: Conceptual LOM Plan

Projected production, grade, throughput, costs, FCF

- Achievable 20-month ramp-up to commercial production
- Cost numbers derived from **actual results** achieved between 2015-2018
- 76% of tonnes** using Sub-level and Uppers longhole mining, which were utilized during 2018 test mining program
- Potential to lower LOM sustaining capital and extend mine life in Feasibility Study



(1) Refer to endnote #1 for further details

(3) Refer to endnote #3 for further details

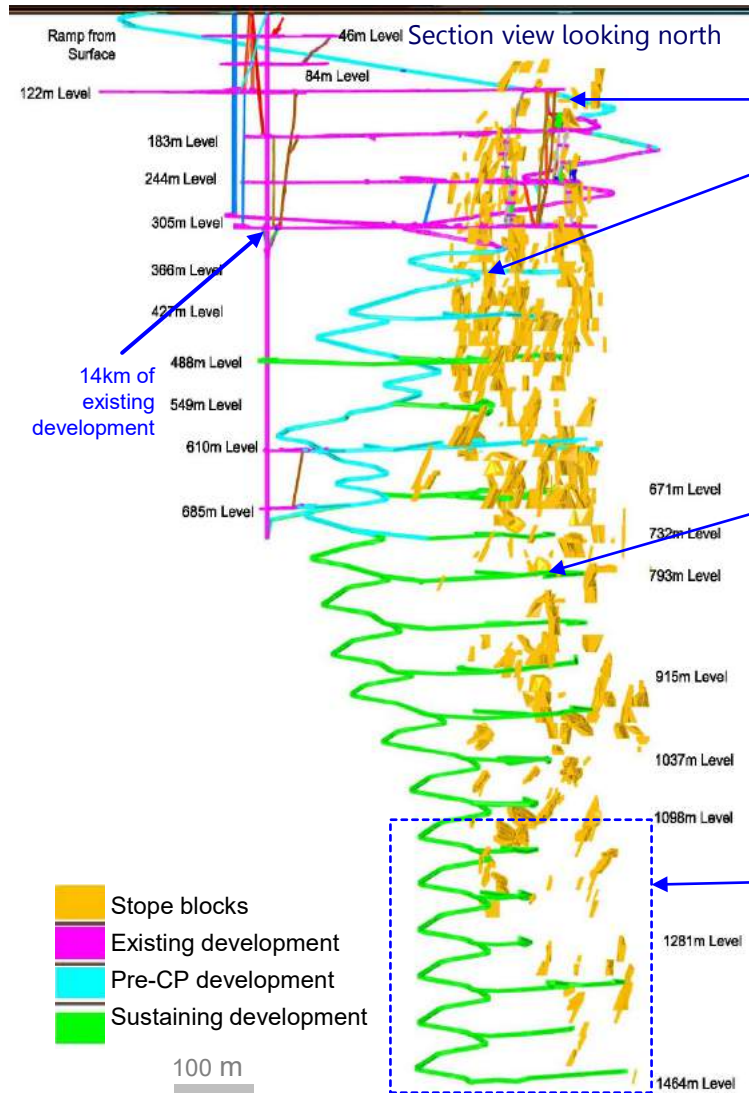
* Inclusive of closure costs

Year -2 (stub year) 8 months of construction & development

Year 6 (stub year) 1 month of operation

2019 PEA¹: Underground Development Plan

26.6km of Conceptual LOM development



Pre-CP Development ~6,000 m:

- Ramp to surface allows for effective movement of equipment and personnel will accommodate larger haulage trucks
- 12-months of development ahead of conceptual mining

Ramp development below 610-m Level:

- Peak development rates of **5 rounds (14.7 m)** per day
- Material will be trucked up to the 610-m Haulage Level for skipping
- **C\$5.5k-6.5k** costs per metre at higher-end of range compared to peers derived from actual costs between 2013-2018

Potential underground ramp development reduction:

- The 2020 Measured and Indicated mineral resource estimates have a depth down to the 976 m Level. Feasibility Study could result in lower total underground sustainable capital development (potential ~**C\$40-50M** savings)

(1) Refer to endnote #1 for further details

Canadian Single Asset U/G Projects

Rubicon benefits from high IRR, low Initial Capex, and tax loss pools

	Osisko Mining ¹⁶	BGM/OR ¹⁶	Pure Gold ¹⁶	Monarch Gold ¹⁶	Ascot ¹⁶	Harte Gold ¹⁶	Average	Rubicon
Project	Windfall	Cariboo	Madsen	Wasamac	Premier	Sugar		Phoenix
Stage	2018 PEA	2019 PEA	2019 FS	2018 FS	2020 FS	2019 FS		2019 PEA ¹
Processing facilities in place	No	No	Yes	Yes	Yes	Yes		Yes
Gold price (US\$/oz)	\$1,300	\$1325	\$1,275	\$1,300	\$1,400	\$1,300	\$1,317	\$ 1,325
USD:CAD	0.78	0.77	0.75	0.76	0.76	0.77	0.77	0.75
After-tax Project IRR	32.7%	28.1%	35.9%	18.5%	51.0%	N/A	33.2%	40.2%
Pre-tax Project NPV _{5%} (C\$M)	C\$625	C\$633	C\$353	C\$522	C\$516	C\$314	C\$494	C\$135
After-tax Project NPV _{5%} (C\$M)	C\$413	C\$403	C\$247	C\$311	C\$341	C\$267	C\$330	C\$135
Pre/After-tax NPV _{5%} difference (C\$M) or the net impact of payable taxes on the Project	C\$212	C\$231	C\$106	C\$211	C\$175	C\$47	C\$164	-
Pre-production CAPEX (C\$M)	C\$397	C\$306	C\$95	C\$464	C\$147		C\$244	C\$101
AISC (US\$/oz)	US\$704	US\$796	US\$787	US\$630	US\$642	US\$845	US\$734	US\$882
Pre-Construction Tax Loss Pools (C\$M)	NA	NA	NA	NA	N/A	N/A	-	C\$690
LOM Taxes Payable (C\$M)	C\$341	C\$363	C\$153	C\$327	C\$238	C\$76	C\$250	-
Taxes Payable/Payable oz (US\$)	US\$150	US\$142	US\$118	US\$160	US\$225	US\$68	US\$144	-

Manageable initial capex, substantial infrastructure minimize risk of capex inflation

RMX tax loss pools provide direct free cash flow benefit to shareholders

2020 Mineral Resource Estimate^{2,3}

Year-over-year of steady, de-risked growth

2020 Mineral Resource Estimate^{2,3}

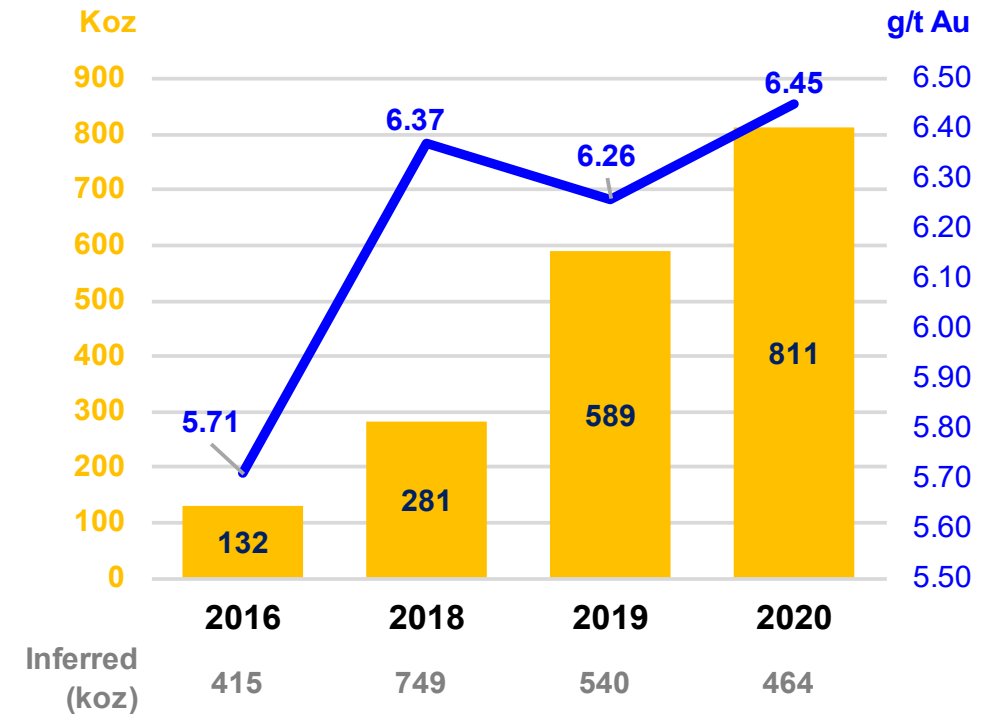
January 7, 2020 @ 3.0 g/t Au Cut-off

Resource Category	Quantity (000'tonnes)	Grade (g/t Au)	Contained Gold Ounces
Measured (M)	665	6.53	140,000
Indicated (I)	3,243	6.44	671,000
M + I	3,908	6.45	811,000
Inferred	2,073	6.97	464,000
Explore Target⁶	1,000-1,600	5.5-7.5	

- **8 m (Measured) and 18 m (Indicated)** average drill density
- **>1,000 oz/vertical metre** of M+I, and Inferred Mineral Resource estimate down to the 976 m level
- 35,000-tonne bulk sample⁴ (2018) delivered positive reconciliation on grade (**+6.1%**), tonnes (**+7.2%**) and ounces (**+13.8%**)
- High conversion rate of Inferred Mineral Resource estimates to Measured and Indicated

Year-over-year Expansion of Measured and Indicated Mineral Resource Estimates^{7,13,14,15}

@ 3.0 g/t Au Cut-off



(2) Refer to endnote #2 for further details; (3) Refer to endnote #3 for further details; (4) Refer to endnote #4 for further details; (6) Refer to endnote #6 for further details (7) Refer to endnote #7 for further details; (13) Refer to endnote #13 for further details; (14) Refer to endnote #14 for further details; (15) Refer to endnote #15 for further details

2020 Mineral Resource Estimate^{2,3}

Potential to expand M+I at depth

Drilling Results Relative to the 2020 Mineral Resource Block Model^{2,3} Zone 2

(@ 3.0 g/t Au Cut-off Grade)

Longitudinal view looking east (mine grid)

Drill hole intercept grades

- 10+ g/t Au
- 7-10 g/t Au
- 5-7 g/t Au
- 3-5 g/t Au
- 1-3 g/t Au

Existing underground development

2020 Mineral Resource Model Categories

- Measured
- Indicated
- Inferred
- Exploration Targets*

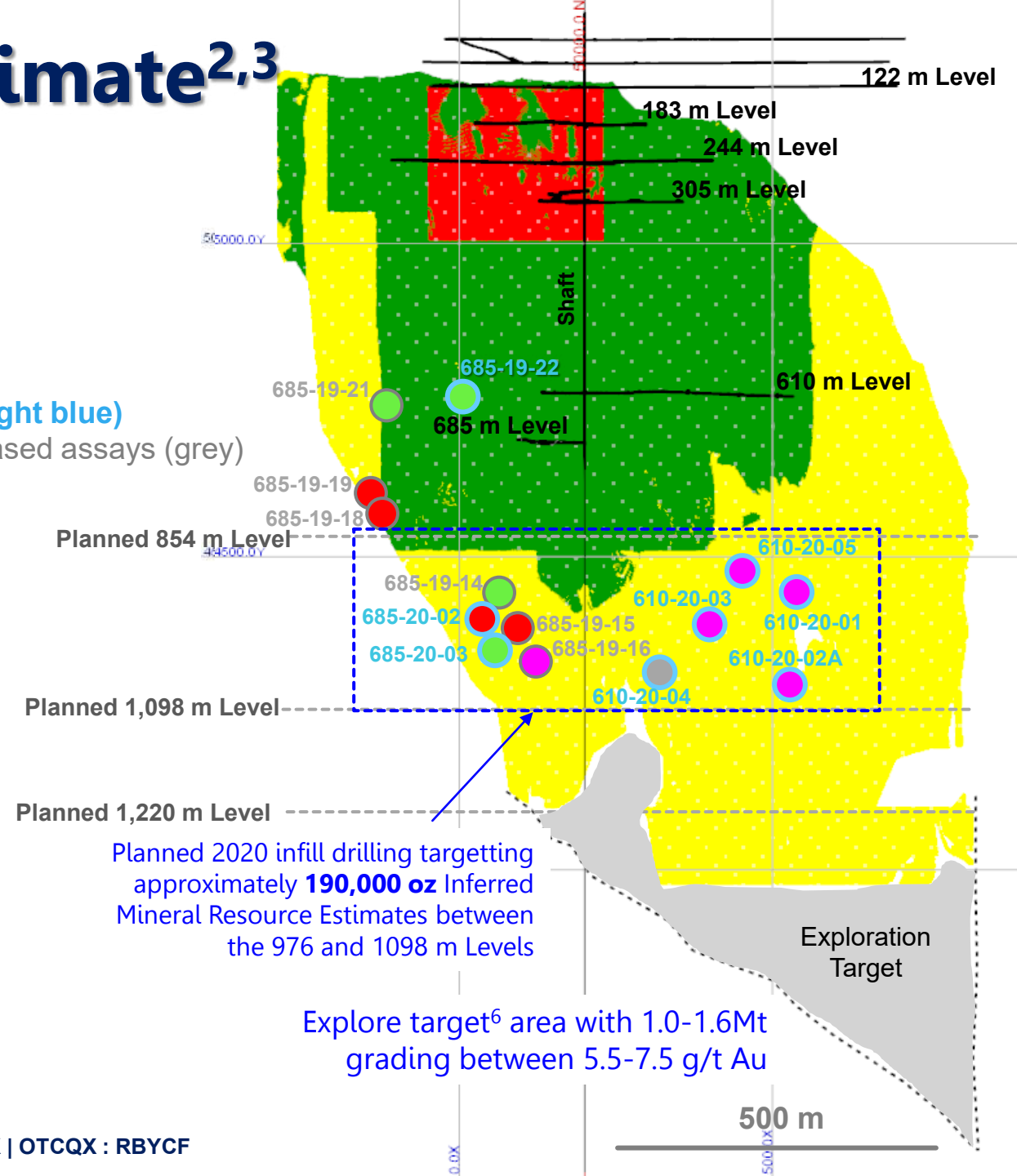
Conceptual levels below surface

*Not a mineral resource category (greater than 80-metre drill centres) but contains sparsely drilled mineralized material

(2) Refer to endnote #2 for further details
 (3) Refer to endnote #5 for further details
 (6) Refer to endnote #6 for further details
 (17) Refer to endnote #17 for further details

New drilling (light blue)

Previously released assays (grey)

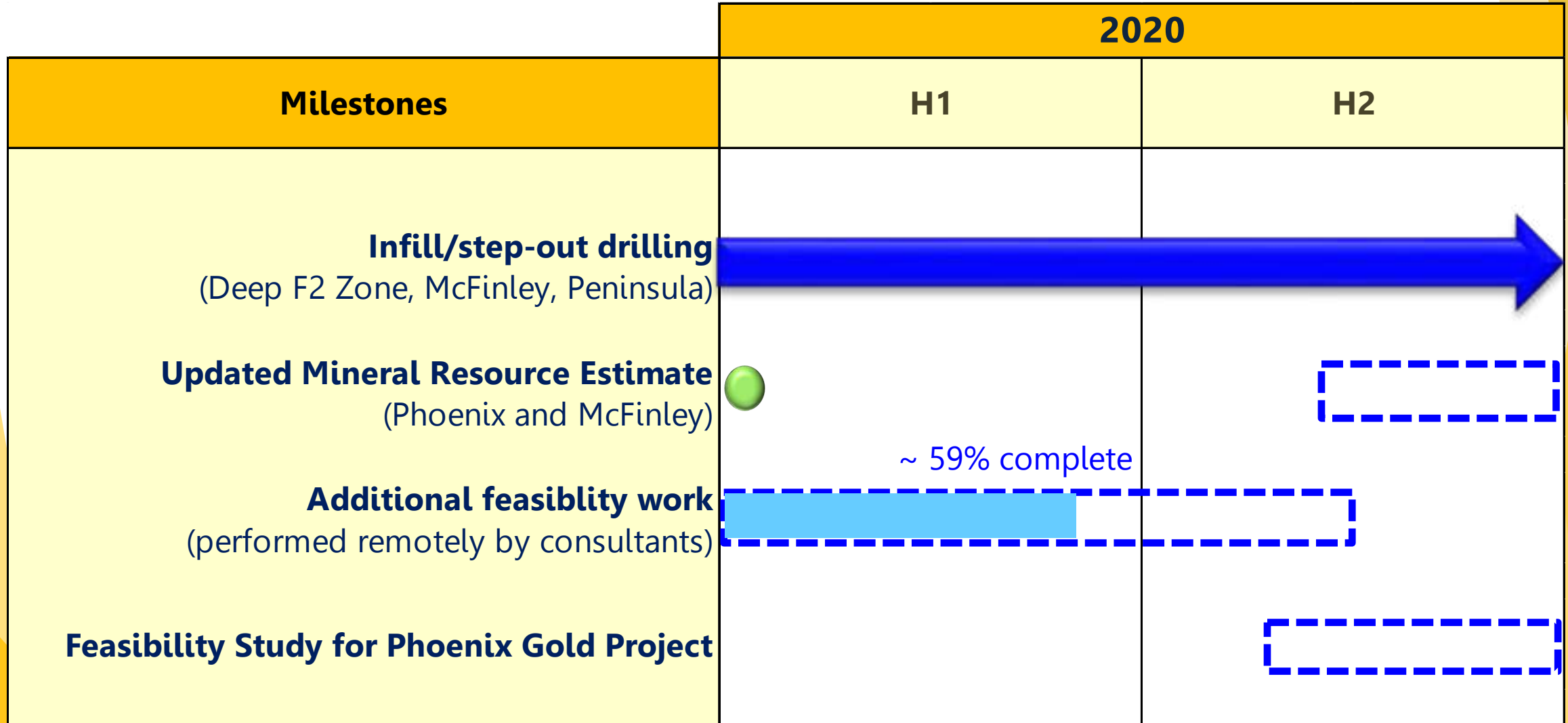


Planned 2020 infill drilling targetting approximately **190,000 oz** Inferred Mineral Resource Estimates between the 976 and 1098 m Levels

Explore target⁶ area with 1.0-1.6Mt grading between 5.5-7.5 g/t Au

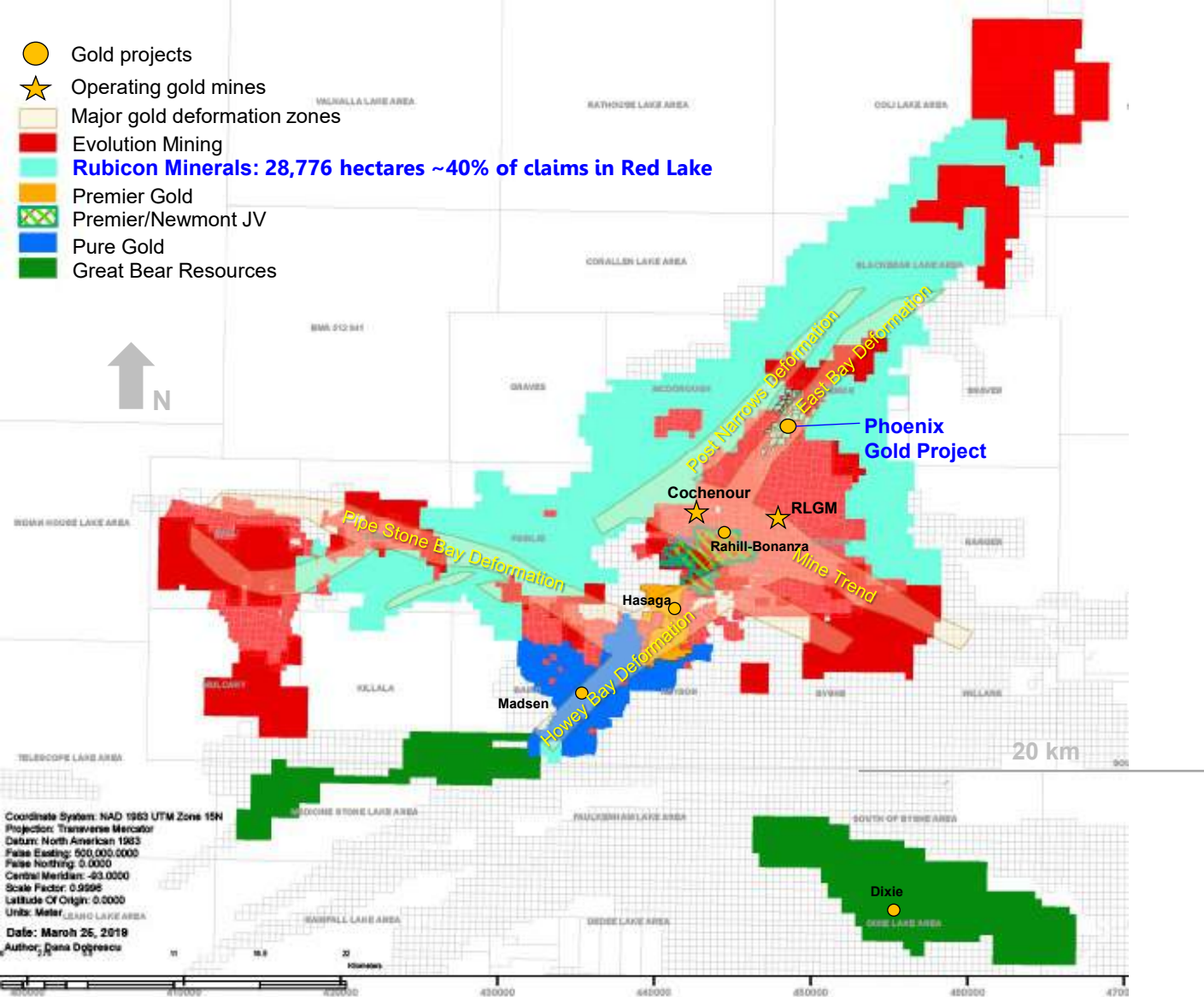
2020 Project Advancement Plan

Feasibility Study timelines unaffected by COVID-19 measures



Prolific Red Lake Gold Camp

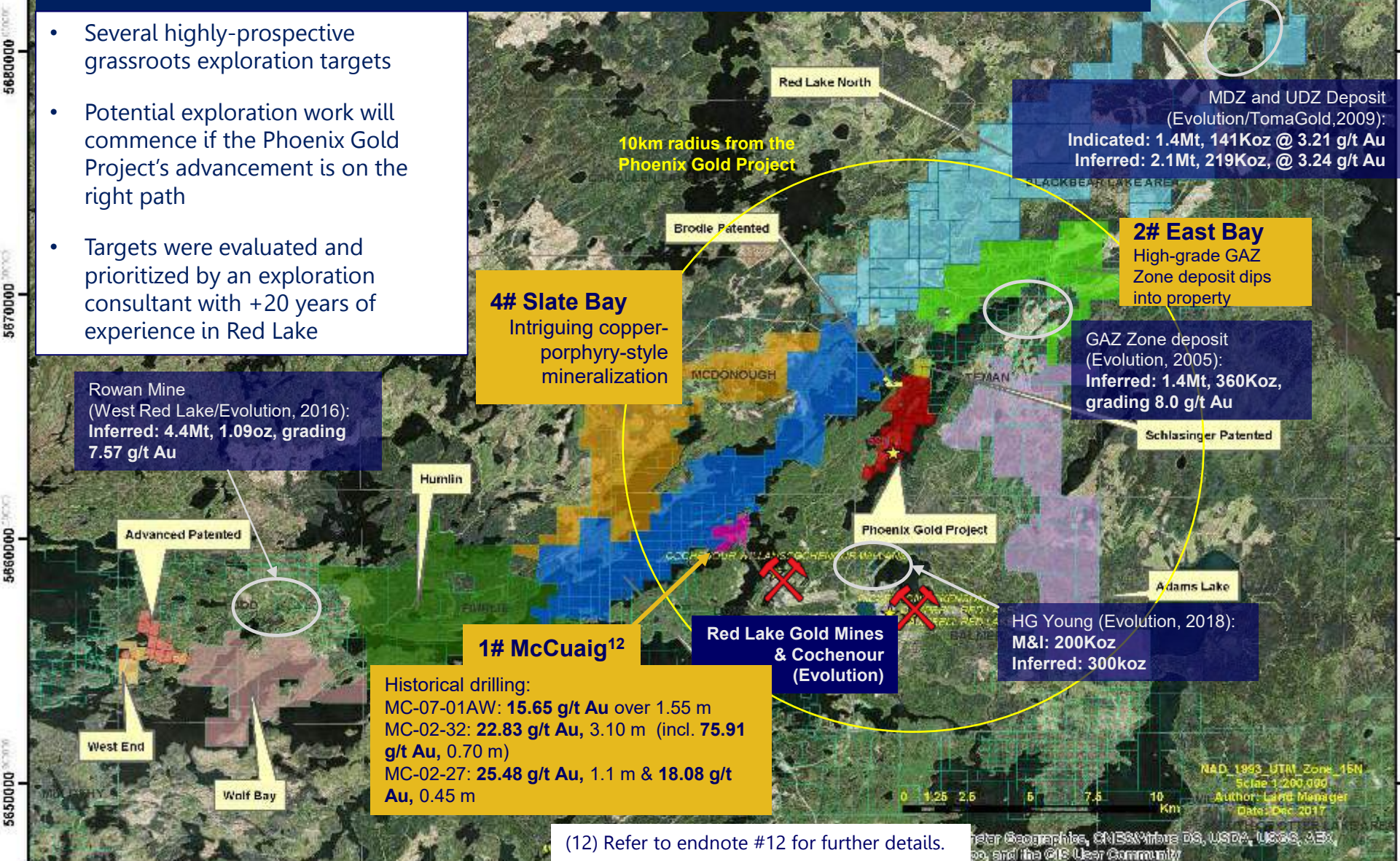
30 million ounces produced and prime for consolidation



Rubicon Red Lake Properties

Highly-prospective targets adjacent to Evolution Mining

- Several highly-prospective grassroots exploration targets
- Potential exploration work will commence if the Phoenix Gold Project's advancement is on the right path
- Targets were evaluated and prioritized by an exploration consultant with +20 years of experience in Red Lake



3# Sidace
Adjacent to MDZ/UDZ deposits

MDZ and UDZ Deposit (Evolution/TomaGold, 2009):
Indicated: 1.4Mt, 141Koz @ 3.21 g/t Au
Inferred: 2.1Mt, 219Koz, @ 3.24 g/t Au

2# East Bay
High-grade GAZ Zone deposit dips into property

GAZ Zone deposit (Evolution, 2005):
Inferred: 1.4Mt, 360Koz, grading 8.0 g/t Au

4# Slate Bay
Intriguing copper-porphyr style mineralization

Rowan Mine (West Red Lake/Evolution, 2016):
Inferred: 4.4Mt, 1.09oz, grading 7.57 g/t Au

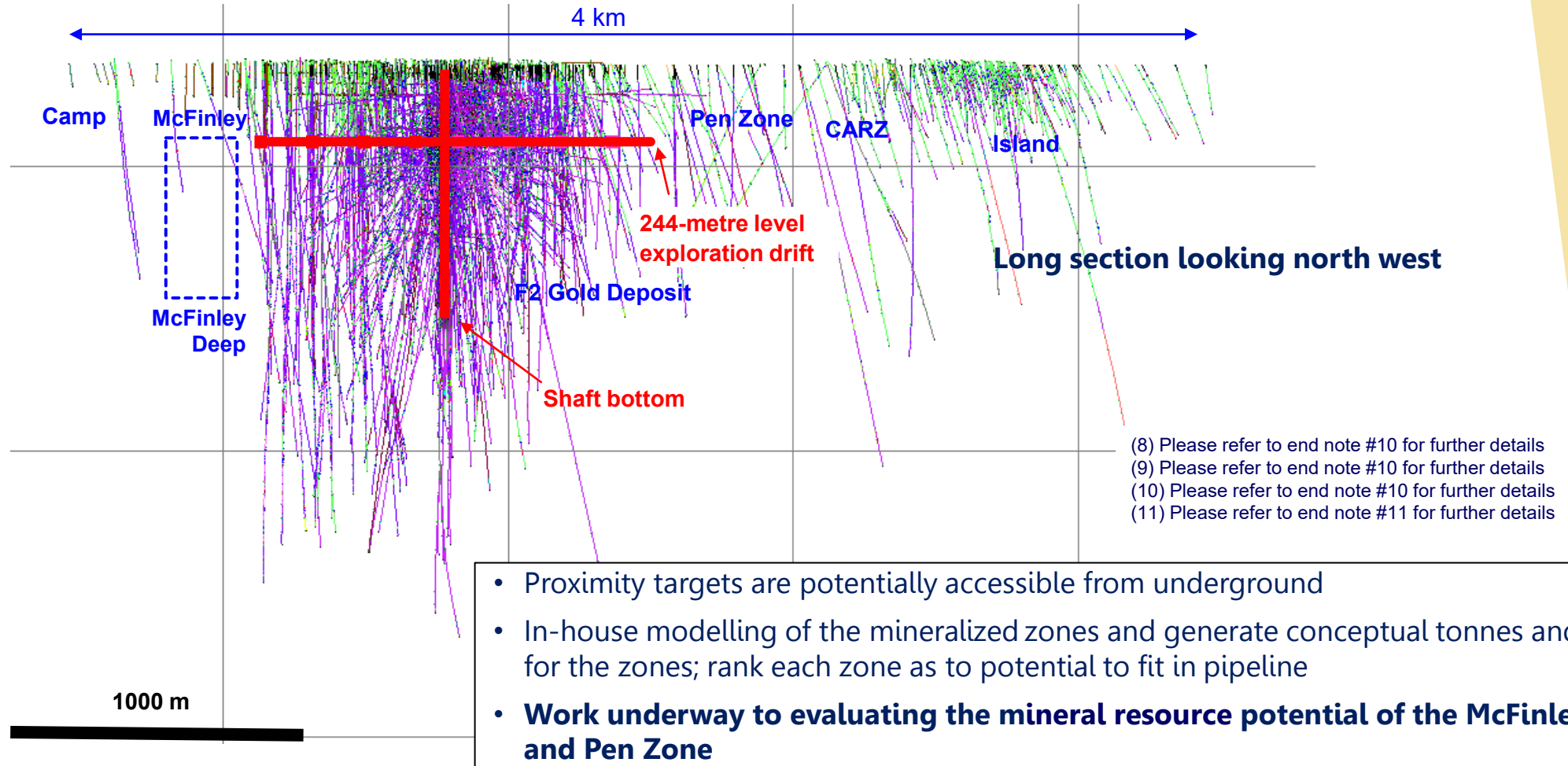
1# McCuaig¹²
Historical drilling:
MC-07-01AW: 15.65 g/t Au over 1.55 m
MC-02-32: 22.83 g/t Au, 3.10 m (incl. 75.91 g/t Au, 0.70 m)
MC-02-27: 25.48 g/t Au, 1.1 m & 18.08 g/t Au, 0.45 m

HG Young (Evolution, 2018):
M&I: 200Koz
Inferred: 300koz

(12) Refer to endnote #12 for further details.

Close Proximity Targets^{8,9,10,11}

Potential LOM incremental feed of the Phoenix Gold Project



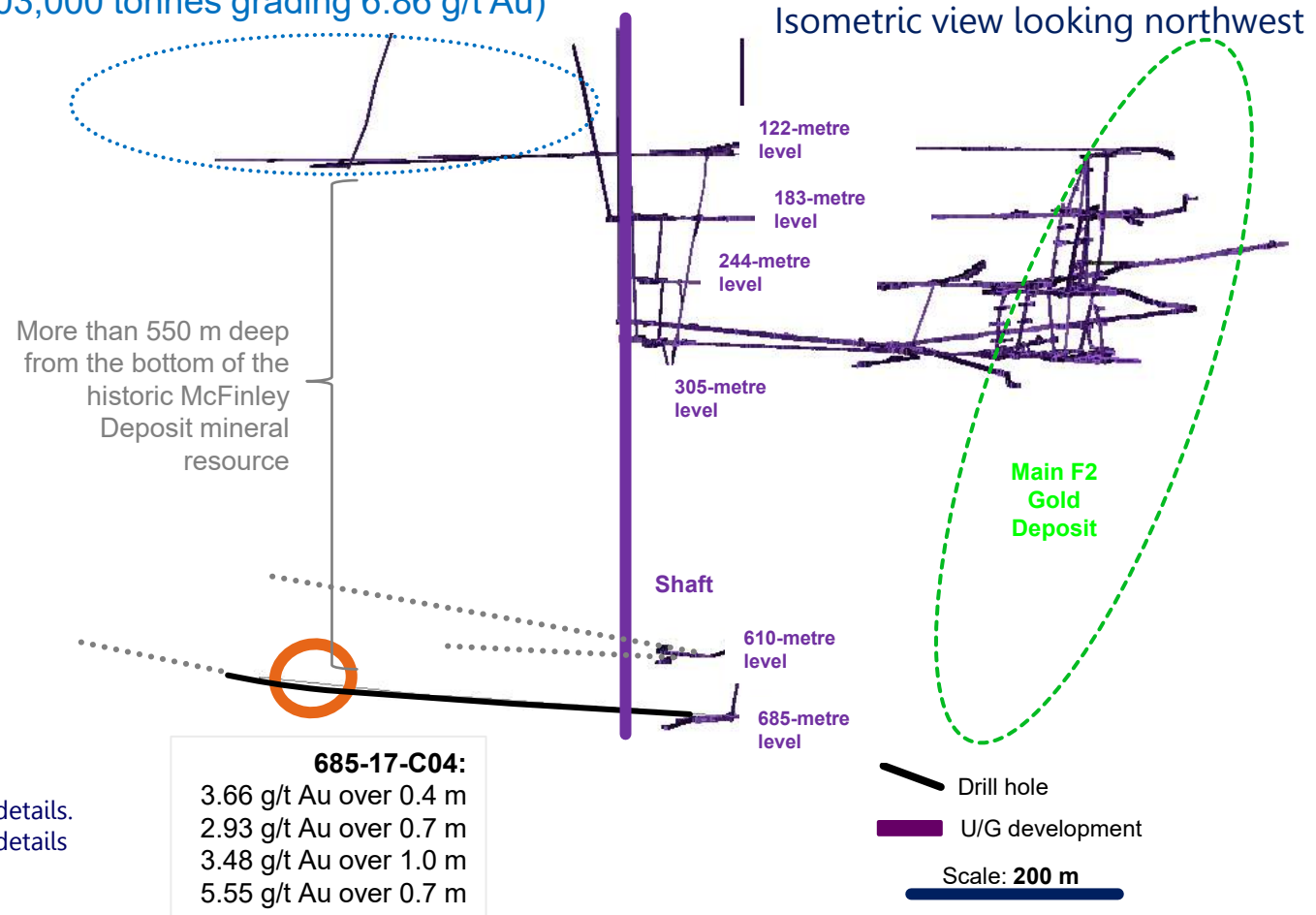
Close Proximity Targets – McFinley Deep^{10,11}

Potential LOM incremental feed of the Phoenix Gold Project

- Drilling intersected gold-bearing quartz veins and sulphides, and banded iron formation (BIF) through four zones, similar to the lithological sequence in the historic McFinley Deposit
- Drill hole ended in HiTi basalts, suggesting that mineralization remains open to the west (mine grid)

Historic McFinley Deposit (2002)¹⁰

Inferred: 66,801 oz Au
(303,000 tonnes grading 6.86 g/t Au)



(10) Refer to endnote #10 for further details.
(11) Refer to endnote #11 for further details

Close Proximity Targets^{8,9}

McFinley, Pen Zone, CARZ and Island

- Mineralization, including high-grade intercepts from historical drilling, encountered over a 4 km strike in proximity to the F2 Gold Deposit
- Compiling dataset and evaluating mineral resource potential for eventual drill program

Select historical high-grade intercepts:

Island Zone⁸ (not true widths)

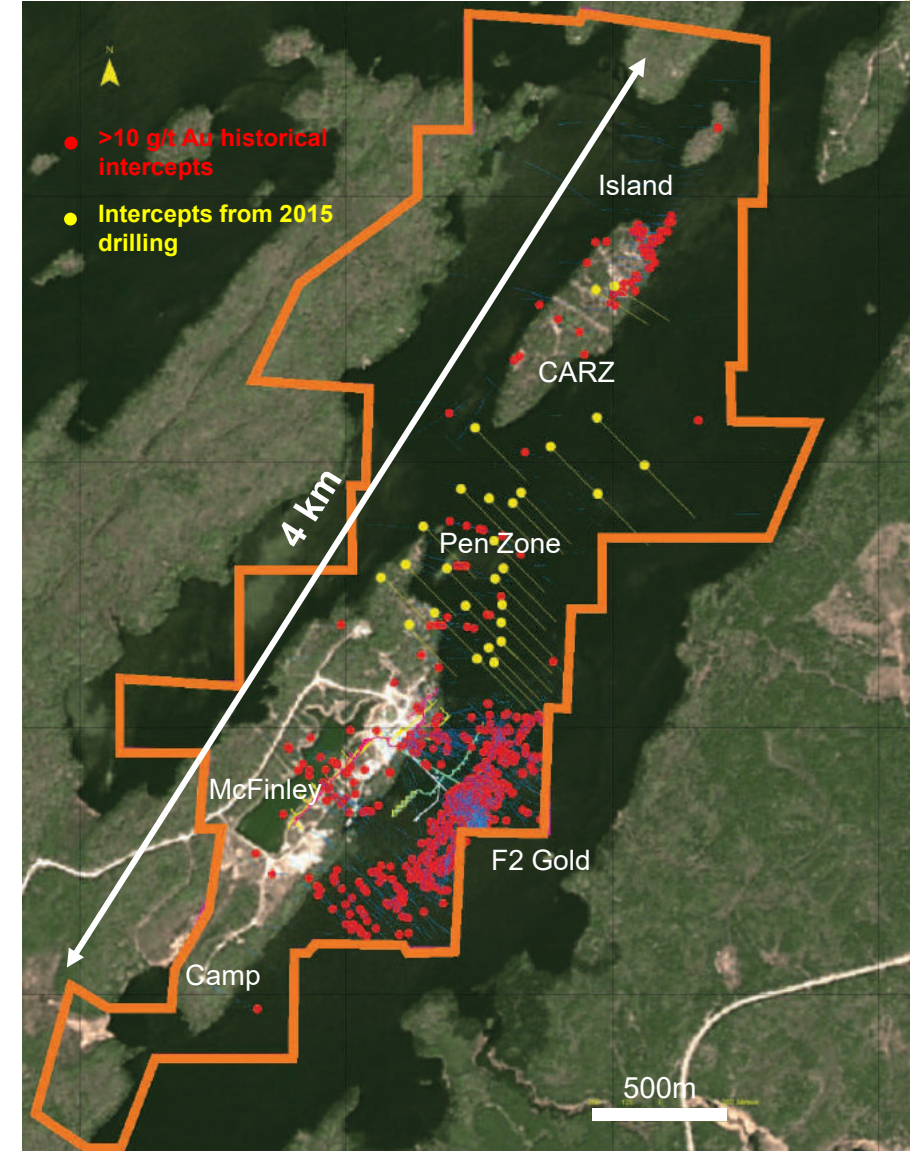
- PZ-23: **70.1 g/t Au** over 3.1 m
- PZ-12: **28.7 g/t Au** over 1.4 m
- PZ-47: **9.0 g/t Au** over 4.5 m (incl. **22.2 g/t Au** over 1.7 m)
- PZ-25: **8.4 g/t Au** over 8.0 m (incl. **15.8 g/t Au** over 3.5 m)
- PZ-03: **15.5 g/t Au** over 4.8 m (incl. **33.3 g/t Au** over 1.9 m)
- PZ-02: **15.0 g/t Au** over 2.8 m

Carbonate Zone⁹ ("CARZ") (not true widths)

- PR-15-11: **24.17 g/t Au** over 2.00 m
- PR-15-11: 4.88 g/t Au over 10.50 m (incl. **6.43 g/t Au** over 7.00 m)
- PR-15-16: 8.48 g/t Au over 3.25 m (incl. **11.10 g/t Au** over 2.25 m)
- PR-15-19: **8.43 g/t Au** over 1.05 m
- PR-15-19: 2.30 g/t Au over 12.00 m (incl. **5.76 g/t Au** over 2.00 m)
- PR-15-06: **10.77 g/t Au** over 2.65 m
- PR-15-09: **7.84 g/t Au** over 1.50 m

(8) Refer to endnote #8 for further details

(9) Refer to endnote #9 for further details



Plan view

Key Takeaways to the Rubicon Story

- **Robust 2019 PEA – After-tax IRR & NPV Estimate greater than 90% and C\$370M, respectively, at spot C\$ gold price scenario**
- **Significant New and Operational Infrastructure and Tax Loss Pools of C\$690M**
- **Validated Geological Model and Growing Resource Estimate**
- **Organic Growth Opportunities within 2km of the Phoenix Gold Project and 2nd Largest Land Package in Red Lake**

Appendices

Risk Mitigation of Common U/G Ramp-Up Issues

Measures taken to reduce and contain the impact of teething issues

Rubicon Measures

Underground development falls behind mining

- 2019 PEA¹ envisions gradual 20-month ramp-up, including ~6,000 m of development, to achieve commercial production
- Conservative advancement rate of **5 rounds (14.7 m) per day**
- Head start with more than **14,000 m of existing, de-watered, U/G development** and infrastructure, including fully functioning shaft, loading pocket
- Focus on executing on mine plan and generating cash flows vs. rush to declare commercial production

Mined grades below reserve grades

- Planned LOM short-hole air-drilling @ 10-m centres for better stope definition and grade predictability
- Sizable 35,000-tonne bulk sample processing program⁴ in 2018 demonstrated positive reconciliation in terms of grades (**+6.1%**), tonnes (**+7.2%**) and ounces (**+13.8%**) validating the geological model and parameters used; lower-grade pre-developed stopes utilized (no “cherry picking” stopes)
- 2018 test mining⁴ achieved **8.7% external dilution**; Feasibility Study contemplates 15% external dilution potential
- Sublevel and uppers longhole successfully executed during test mining, representing the primary mining methods for the FS
- Anticipating ~12 months of U/G development ahead of mining, resulting in increased mining horizons and pre-developed stopes and more flexibility on stope grades

(1) Refer to endnote #1 for further details

(4) Refer to endnote #4 for further details

Risk Mitigation of Common U/G Ramp-Up Issues

Measures taken to reduce and contain the impact of teething issues

Rubicon Measures

Poor mill recoveries

- State-of-the-art Phoenix mill achieved **95.1% recoveries** (43.2% due to gravity) during 2018 bulk sample processing program⁴
- Mill operated comfortably @ **1,540 tpd** and tested @ 1,800 tpd (minor mill upgrades needed)
- Waste material has already filled the mill circuit, no need for lengthy commissioning

Initial Capex blow-up

- More than **C\$770 million** in sunk capital already in place including 1,800 tpd mill, 14,000 m of U/G development including working hoist and shaft, tailings management facility in place, and other surface infrastructure
- 2019 PEA¹ based on actual information ; U/G development (representing ~40% of initial capital) estimated at **C\$5,500-C\$6,500 per metre** (contractor rates), higher than peer estimates and rates achieved during test mining between 2015-2018
- Potential cash flow from 44koz of potential production during ramp-up can lower initial capital
- No long lead-time items other than ammonia treatment plant

(1) Refer to endnote #1 for further details

(4) Refer to endnote #4 for further details

2019 PEA¹: Mining Methods Contemplated

Project predominantly bulk mining

Successfully executed during
2018 test trial mining program⁴

Metrics (base case estimates)	Sub-Level Longhole*	Uppers*	Mass Blast Raise Mining** ("MBRM")	Cut-and-Fill
Conceptual LOM tonnes	1,595,921	708,880	513,974	226,420
Conceptual LOM tonnes (%)	52.4%	23.3%	16.9%	7.4%
Total stopes	66	172	43	60
Average stope size (tonnes)	24,181	4,121	11,953	3,774
Average dimensions (height x width x strike)	36m x 8m x 25m	16m x 6m x 12m	37m x 3m x 22m	12m x 6m x 16m
Unplanned external dilution	10%	15%	10%	3%
Average diluted grade (after dilution and mining-loss)	5.34 g/t Au	5.30 g/t Au	5.31 g/t Au	5.16 g/t Au
Mining cost per tonne (including indirect costs)	C\$82.88	\$86.88	\$92.15	\$120.58
Typical productivity rates (tpd)	400	300	600	130

Large stope sizes and dimension
drives down unit costs

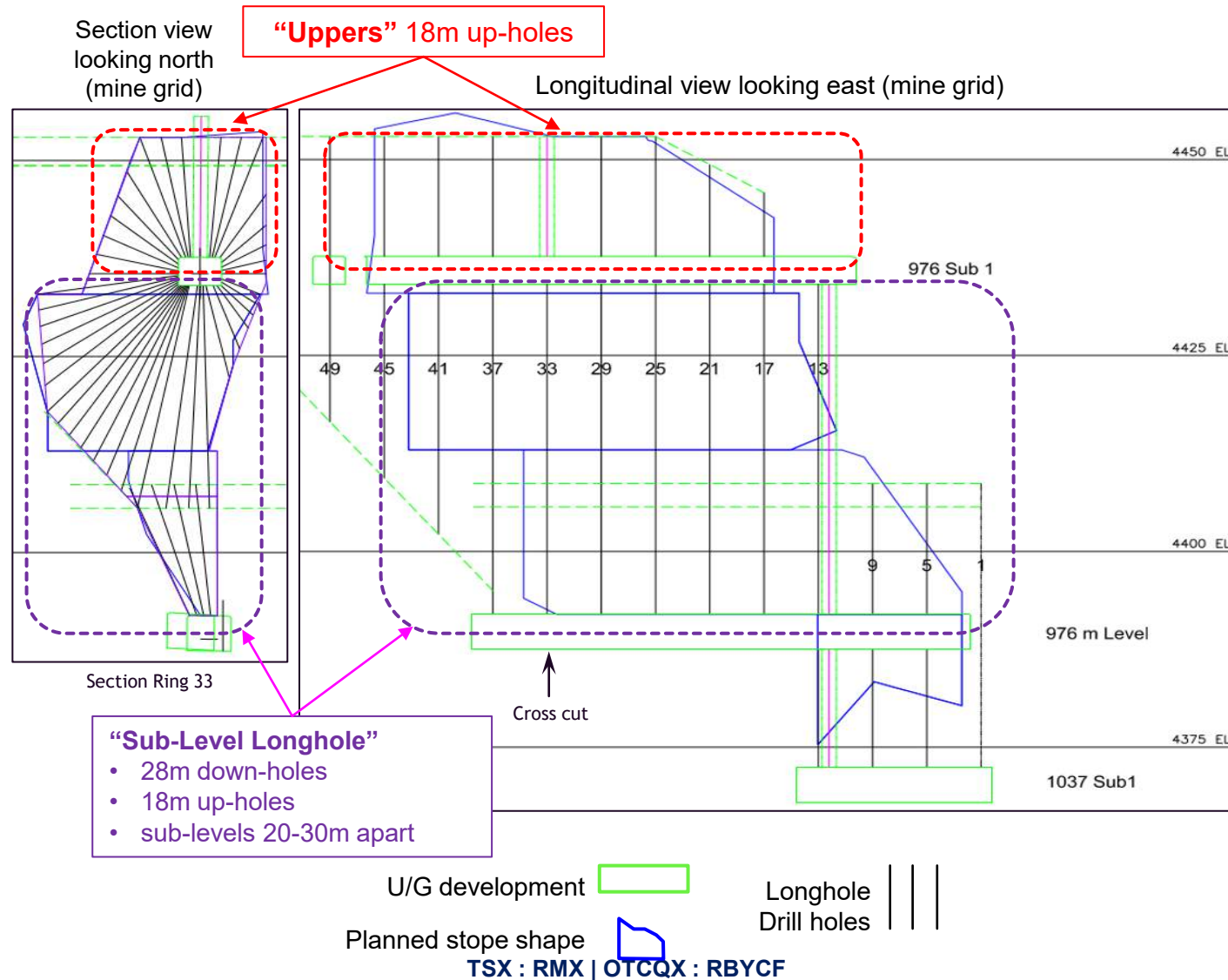
- Forgoing sub-level development improves stope cycle time and overall costs
- Can be utilized for stopes as narrow as 1.0 m
- Management visited the Hemlo Camp
- Company evaluating expanding its use, could add more ounces to the mineable resources

* See also slide 24,
** See also slide 25.

(1) Refer to endnote #1 for further details
(4) Refer to endnote #4 for further details

Sub-Level Longhole and Uppers

Core to the conceptual Life of Mine plan



Successful 2018 Test Trial Mining and Bulk Sample Processing Program⁴

2018 Bulk Sample Reconciliation Results (before external mining dilution)

	Bulk sample results	Block model ^{3,4,14}	Difference (%)
Tonnes (t)	32,551	30,360	+7.2%
Grade (g/t Au)	4.93	4.65	+6.1%
Ounces (oz)	5,165	4,539	+13.8%
External dilution	8.7%	10.0%	-13.0%

- **>10,000 samples taken** from chips and mucks
- **Drilling at 5-metre centres** for stope shaped design and grade confirmation
- **3 Test stopes mined sequentially** to avoid comingling of material; Stockpiled separately and batched sequentially to the mill separately
- **Sublevel longhole and uppers methods:** Successfully demonstrated the amenability of bulk mining methods
- **External dilution was minimized** due to near-vertical orientation of the stopes and mining within High-Ti Basalts (and not to the contacts)

Stope Information and Mill Results

Categories	Result
Average stope height (m)	21 m
Average stope strike length (m)	27 m
Average stope width (m)	6 m
External mining dilution (%)	8.7%
Achieved throughput	70 tph 1,540 tpd
Mill recovery (%)	95.1%
Recovery from gravity circuit (%)	43.2%
Approximate silver (Ag) ounces recovered	1,043 oz Ag

Potential to operate at 1,800 tpd at current configuration with minor modifications

Potentially translates to lower processing costs in future mining

(3) Refer to endnote #3 for further details

(4) Refer to endnote #4 for further details

(14) Refer to endnote #14 for further details

Leadership With Turnaround Experience

Expertise in underground mining, geology, finance and law

Management

George Ogilvie, P.Eng.
President and CEO

- +30 years of management, operating, technical, M&A, and restructuring
- Former CEO of Kirkland Lake Gold; **led the successful turnaround of the Macassa Mine** and acquisition of St. Andrew Goldfields
- Experience in deep, underground narrow-vein gold deposits in South Africa with **AngloGold**
- Grew Rambler Metals from grassroots **exploration to profitable junior producer**

Mike Willett, P.Eng.
Director of Projects

- +37 years of management, operating and technical experience
- Held senior roles with **Hudbay**
- Led the **increase in mineral resources and permitting** as CEO of Tamerlane Ventures Inc.

Nick Nikolakakis, MBA
CFO

- +25 years of corporate finance and management experience; **+\$2 billion financings**
- Former CFO Rainy River; led the **sale to New Gold**
- Former VP Finance Barrick – led the **C\$1.5 Billion financing of Pueblo Viejo** in Dominican Republic

Board

Julian Kemp, BBA, CPA, CA, C.Dir
(Chair)

- Led Rubicon through a successful strategic review and CCAA process
- Former CFO Fortune Minerals

Peter R. Jones, P.Eng.

- Led the successful **IPO of Hudbay Minerals Inc. and its turnaround**
- Former Chair and CEO of Adanac Molybdenum, Chair of Medusa Mining

Dr. David A.S. Palmer, PhD,
P.Geo.

- Experienced geologist
- **Borden Deposit discovery** as President and CEO of Probe Mines; **sold to Goldcorp**
- Current President and CEO of Probe Metals

Daniel Burns, JD, MBA, CPA, CMA,
ICD.D, ACC

- President and CEO of NDC Solutions Inc.
- Current Chair of World Council of Credit Unions

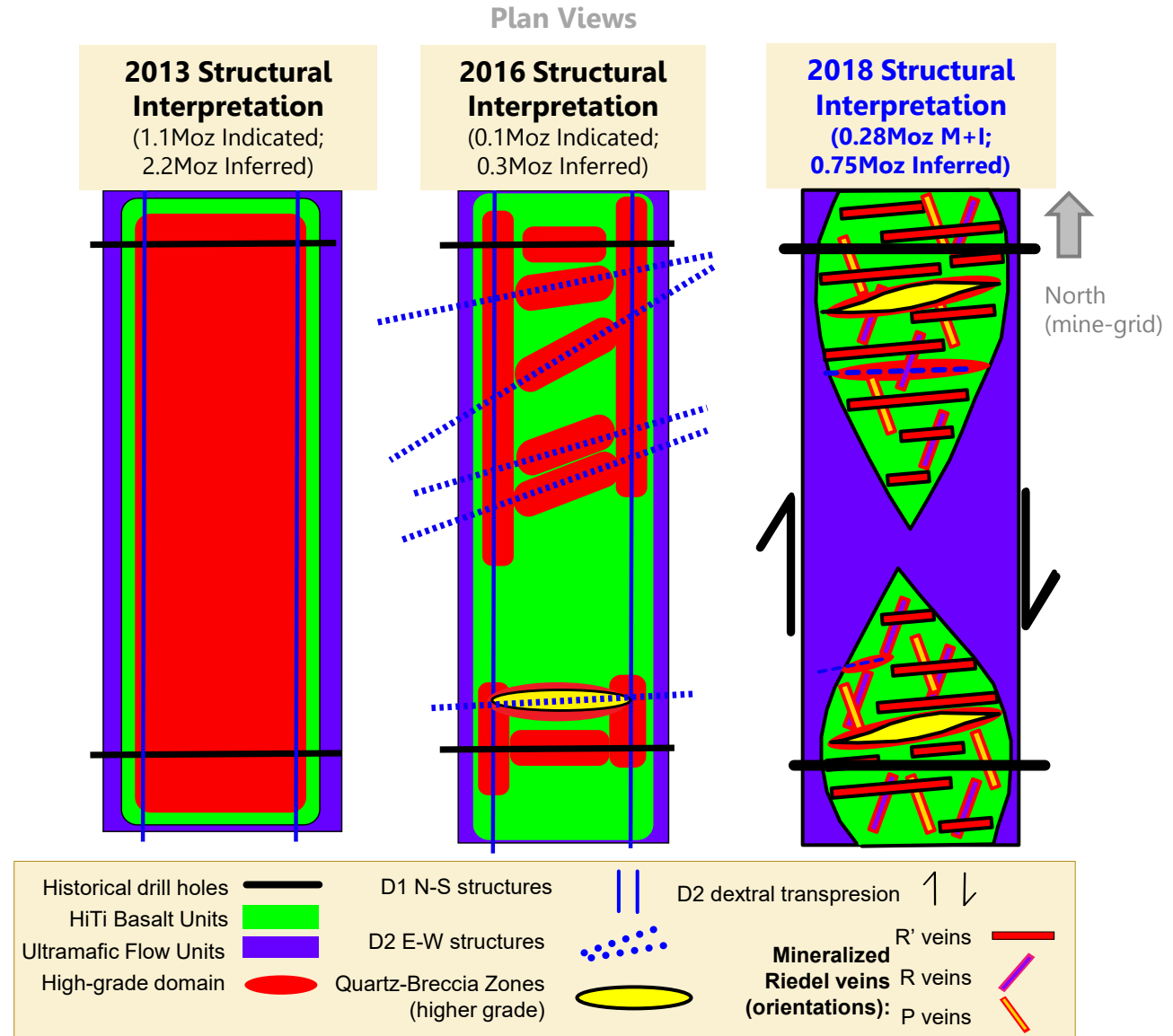
Sasha Bukacheva, CFA, MSc.

- Previously a top-ranked base metals Equity Research Analyst for BMO
- Former Vice President, Finance and Administration for Stans Energy Corp.

Structural Interpretation^{13,14}

Comparison of structural interpretations of the F2 Gold Deposit

- **Riedel vein system:** System of mineralized quartz-actinolite veins that appear to be primary structural controls on gold mineralization at the F2 Gold Deposit
- **More continuity** of gold mineralization within the HiTi Basalt Units (main host rock) compared to the 2016 geological model
- **Evaluating bulk mining methods:** Test mining sublevel longhole method on current test stopes



(13) Refer to endnote #13

(14) Refer to endnote #14

2019 PEA¹: Operating and Sustaining Cost Estimates

Derived from actual operating results between 2013-2018

Capital costs:	Sustaining (C\$ millions)	Operating Costs	Total (C\$ millions)	Per tonne (C\$)	Per ounce (US\$)
Underground development and infrastructure	\$86.7	Mining	\$268.4	\$88.14/LOM tonne	US\$409/LOM oz
Equipment	\$53.1	Processing	\$99.6	\$32.70/LOM tonne	US\$152/LOM oz
Surface and mill	\$6.5	Site G&A	\$23.8	\$7.82/LOM tonne	US\$36/LOM oz
Closure costs	\$7.7	Total LOM operating costs	\$391.8	\$128.67/LOM tonne	US\$597/LOM oz
Total Sustaining Capital	\$154.0	Total commercial operating costs	\$346.1	\$123.63/CP tonne	US\$579/CP oz
Per CP year (5.1 years)	\$30/year	Royalties (3%) & other prod. taxes	\$26.9	\$9.61/CP tonne	US\$45/CP oz
		Total Cash Costs	\$373.0	\$133.23/CP tonne	US\$624/CP oz
		AISC	\$527.1	\$188.25/CP tonne	US\$882/CP oz
		AIC	\$677.0	\$222.30/LOM tonne	US\$1,031/LOM oz

↑
Driven by realistic U/G development costs at the higher-end of peer group range

- Operating costs derived from actual results between 2013 to 2018, including the 2018 test trial mining and bulk sample processing program
- Majority of the estimated costs:
 - Labour (50-60%)
 - CAD denominated costs (~80%)

(1) Refer to endnote #1 for further details

2019 PEA: Robust Economic Potential^{1,3}

Sensitivities on mill throughput, grade, Capex/Opex

After-tax IRR(%)/NPV5%(C\$)

LOM Avg. Throughput (tpd)	Conceptual LOM diluted head grade (g/t Au)						
	4.50	4.75	5.00	5.31 (base case)	5.50	5.75	6.00
1,200	(5.9%)/(\$34.6)	2.8%/\$7.4	10.9%/\$20.4	20.0%/\$54.0	25.3%/\$74.7	32.0%/\$101.3	38.6%/\$128.8
1,300	6.9%/\$6.6	15.2%/\$36.0	23.0%/\$65.6	32.3%/\$102.4	37.6%/\$124.5	44.4%/\$153.4	51.2%/\$182.9
1,370 (bc)	14.9%/\$34.8	23.0%/\$65.4	30.9%/\$96.9	40.2%/\$135.2	45.7%/\$158.8	53.0%/\$190.6	59.9%/\$221.4
1,500	28.7%/\$87.8	37.0%/\$121.9	45.1%/\$156.4	54.6%/\$197.5	60.5%/\$223.7	68.1%/\$257.9	75.5%/\$291.9
1,600	38.5%/\$128.2	47.1%/\$165.0	55.3%/\$200.5	65.6%/\$246.7	71.5%/\$273.6	79.4%/\$309.7	87.2%/\$346.4
1,700	48.2%/\$169.8	57.0%/\$208.1	65.6%/\$246.9	75.8%/\$293.4	82.3%/\$323.5	90.5%/\$361.7	98.7%/\$397.9
1,800	57.5%/\$210.4	66.4%/\$250.6	75.6%/\$292.5	86.5%/\$342.9	93.0%/\$373.2	101.4%/\$408.3	109.8%/\$438.8

After-tax IRR(%)/NPV5%(C\$)

LOM Capital Cost Change (%)	Total Operating Cost (C\$/tonne)		
	\$110.00	\$128.67 (base case)	\$150.00
-25%	80.9%/\$234.9	65.6%/\$189.4	48.7%/\$137.3
-15.0%	67.6%/\$213.2	54.0%/\$167.7	38.8%/\$115.6
C\$255.2M (bc)	51.6%/\$180.1	40.2%/\$135.2	27.0%/\$83.8
+15.0%	39.6%/\$148.2	29.2%/\$102.7	17.1%/\$50.6
+25%	32.8%/\$126.4	23.0%/\$80.9	11.6%/\$28.8

(1) Refer to endnote #1 for further details

(3) Refer to endnote #3 for further details

Recent Land Transactions in Red Lake

Rubicon owns a sizeable land package in Red Lake

Date	Property	Size (ha)	Seller	Buyer	Sale price*	Price/ha	Additional info
Nov 2017	McCuaig (40%)	50	Golden Tag	Rubicon	C\$0.7 M	C\$14,630/ha	Land transaction
Mar 2017	Derlak (near Madsen)	219	Orefinders	Pure Gold	C\$1.2 M	C\$5,465/ha	Land transaction
Dec 2015	Buffalo claims (near Hasaga)	513	Pure Gold	Premier Gold	~C\$5.0 M	C\$9,747/ha	Land transaction; Pure Gold gets 1.0% NSR
Nov 2015	Springpole	32,448	Gold Canyon	First Mining Gold	~C\$56.2 M	C\$1,732/ha	Company acquisition; MRE
Jun 2014	Newman-Madsen	>807	Sabina Gold & Silver	Pure Gold	~C\$2.8 M	C\$3,463/ha	Land transaction
Mar 2014	Madsen	4,193	Claude Resources	Pure Gold	~C\$8.8 M	C\$2,087/ha	Asset transaction 500 tpd mill, MRE

Rubicon Red Lake Exploration Land Package (excluding Phoenix Gold Project claim)

28,266 ha

*Total consideration of cash and share values at the time of acquisition

Endnotes

1. The 2019 PEA summarized in this presentation is only a conceptual study of the potential viability of the Project's 2019 Mineral Resource Estimate, and the economic and technical viability of the Project and such mineral resource estimate have not been demonstrated. The 2019 PEA is preliminary in nature and provides only an initial, high-level review of the Project's potential and design options; there is no certainty that the 2019 PEA will be realized. The 2019 PEA conceptual life of plan and economic model include numerous assumptions and estimates. For more information on the 2019 PEA refer to the technical report entitled "National Instrument 43-101 Technical Report for the Phoenix Gold Project Preliminary Economic Assessment, Cochenour, Ontario" dated September 23, 2019, which is available on SEDAR (www.sedar.com) or on the Company website (www.rubiconminerals.com). The September 23, 2019 technical report and 2019 Mineral Resource Estimate is/are not current and should not be relied upon.
2. The 2020 Mineral Resource Estimate is based on 3.0 g/t Au cut-off grade. For more information on the 2020 Mineral Resource Estimate refer to the Rubicon news release dated January 7, 2020, which is available under the Company's profile on SEDAR (www.sedar.com) or on the Company website (www.rubiconminerals.com). An updated Technical Report for the Project will be filed on www.sedar.com within 45 days from January 7, 2020, and will then supersede the September 23, 2019 technical report referenced in endnote 1. There is no certainty that the Measured and Indicated mineral resource estimates will be converted to the Proven and Probable mineral reserve categories and there is no certainty that the 2020 Mineral Resource Estimate will be realized. There is no guarantee that Inferred mineral resource estimates can be converted to Indicated or Measured mineral resources, or that Indicated or Measured mineral resource estimates will be converted to mineral reserves. Mineral resource estimates that are not mineral reserves do not have demonstrated economic viability, and as such there is no guarantee the Project economics described herein will be achieved. The 2020 Mineral Resource Estimate may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant risks, uncertainties and other factors, as more particularly described in the Cautionary Statements at the beginning of this presentation.
3. This presentation uses the terms "Measured" and "Indicated" mineral resource and "Inferred" mineral resource. The Company advises U.S. investors that while these terms are recognized and required by the Canadian Securities Administrators, they are not recognized by the United States Securities and Exchange Commission (SEC). The estimation of "Measured" and "Indicated" mineral resources involves greater uncertainty as to their existence and economic feasibility than the estimation of a "Reserve". The estimation of "Inferred" mineral resources involves far greater uncertainty as to their existence and economic viability than the estimation of other categories of mineral resources. It cannot be assumed that all or any part of an "Inferred", "Measured", or "Indicated" mineral resource estimate will ever be upgraded to a higher category. Under Canadian rules, estimates of "Inferred" mineral resources may not form the basis of feasibility studies, pre-feasibility studies or other economic studies, except in prescribed cases, such as in a preliminary economic assessment (or PEA) under certain circumstances. The SEC normally only permits issuers to report mineralization that does not constitute "Reserves" as in-place tonnage and grade without reference to unit measures. Under U.S. standards, mineralization may not be classified as a "Reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the Reserve determination is made. U.S. investors are cautioned not to assume that any part or all of an "Inferred", "Measured" or "Indicated" mineral resource exists or is economically or legally mineable. Information concerning descriptions of mineralization and mineral resources contained herein may not be comparable to information made public by U.S. companies subject to the reporting and disclosure requirements of the SEC.
4. For more information on the 2018 bulk sample reconciliation results, please refer to the news release on November 29, 2018, which is available on our website at www.rubiconminerals.com. Results viewed by Golder Associates Ltd. and an accounting of gold ounces in the mill was reconciled to less than 0.5%, numbers may not add up due to rounding. Rubicon estimates assumes zero grade for unplanned (external) mining dilution and based on a 3.0 g/t Au cut-off grade. Projected throughput is based on a 22-hour mill availability.
5. As of May 29, 2020, at 12:00pmET. Source: www.kitco.com
6. The potential quantity and grade of "Explore Target" areas is conceptual in nature. There has been insufficient exploration of "Explore Target" areas to define a mineral resource estimate and it is uncertain if further exploration will result in any part of "Explore Target" areas being delineated as a mineral resource.
7. Historical Mineral Resource Estimates and Preliminary Economic Assessments are not current and should not be relied upon.
8. For more information on the Island Zone drill results, please refer to the news release on September 30, 2004, which is available on our website at www.rubiconminerals.com.
9. For more information on the CARZ drill results, please refer to the news release on June 17, 2015, which is available on our website at www.rubiconminerals.com.
10. For more information on the Historic McFinley Deposit, please refer to the Mineral Deposit Inventory for Ontario, MENDM which is available at <http://www.geologyontario.mndm.gov.on.ca/mndmfiles/mdi/data/records/MDI52N04SE00005.html>
11. For more information on the recent McFinley deep drilling, please refer to the news release on February 20, 2018, which is available on our website at www.rubiconminerals.com
12. For more information on the historical McCuaig drill results, please refer to the news release on April 18, 2002, which is available on our website at www.rubiconminerals.com.
13. For more information on the 2016 Mineral Resource Estimate refer to the technical report entitled "Technical Report for the Phoenix Gold Project" dated February 25, 2016, which is available on SEDAR (www.sedar.com) or on the Company website (www.rubiconminerals.com). The 2016 Mineral Resource Estimate and 2016 technical report are not current and should not be relied upon.
14. For more information on the 2018 Mineral Resource Estimate refer to the technical report entitled "National Instrument 43-101 Technical Report for the Rubicon Phoenix Gold Project" dated June 13, 2018, which is available on SEDAR (www.sedar.com) or on the Company website (www.rubiconminerals.com). The 2018 Mineral Resource Estimates and 2018 technical report are not current and should not be relied upon.
15. For more information on the 2019 Mineral Resource Estimate refer to the technical report entitled "National Instrument 43-101 Technical Report for the Rubicon Phoenix Gold Project, Cochenour, Ontario" dated April 23, 2019, which is available on SEDAR (www.sedar.com) or on the Company website (www.rubiconminerals.com). The 2019 Mineral Resource Estimate and 2019 technical report are not current and should not be relied upon.
16. Peer data was compiled from publicly available technical reports for the respective Companies. For further information, please review the 2018 PEA Technical Report for Osisko Mining, 2019 PEA for Barkerville Gold Mines, 2019 Feasibility Study for Pure Gold Mining, 2018 Feasibility Study for Monarch Gold, and 2019 Feasibility Study for Harte Gold filed on www.sedar.com. Market cap values are as of April 15, 2020 from TSX.
17. For more information on exploration results, please review news release on January 20, 2020, which is available on our website at www.rubiconminerals.com
18. For more information, please refer to the news release on February 7, 2020, which is available on our website at www.rubiconminerals.com.
19. For more information, please refer to the news release on March 23, 2020, which is available on our website at www.rubiconminerals.com.

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