

Lundin Mining & Copper Update

INVESTING SUMMARY: for me to consider investing in copper again, prices should be closer to \$3 per pound or even lower, only that would give me a margin of safety for now. When that happens, I will refresh on the full sector and find the best risk reward opportunities. For now, just an overview that will come in handy when the time is right.

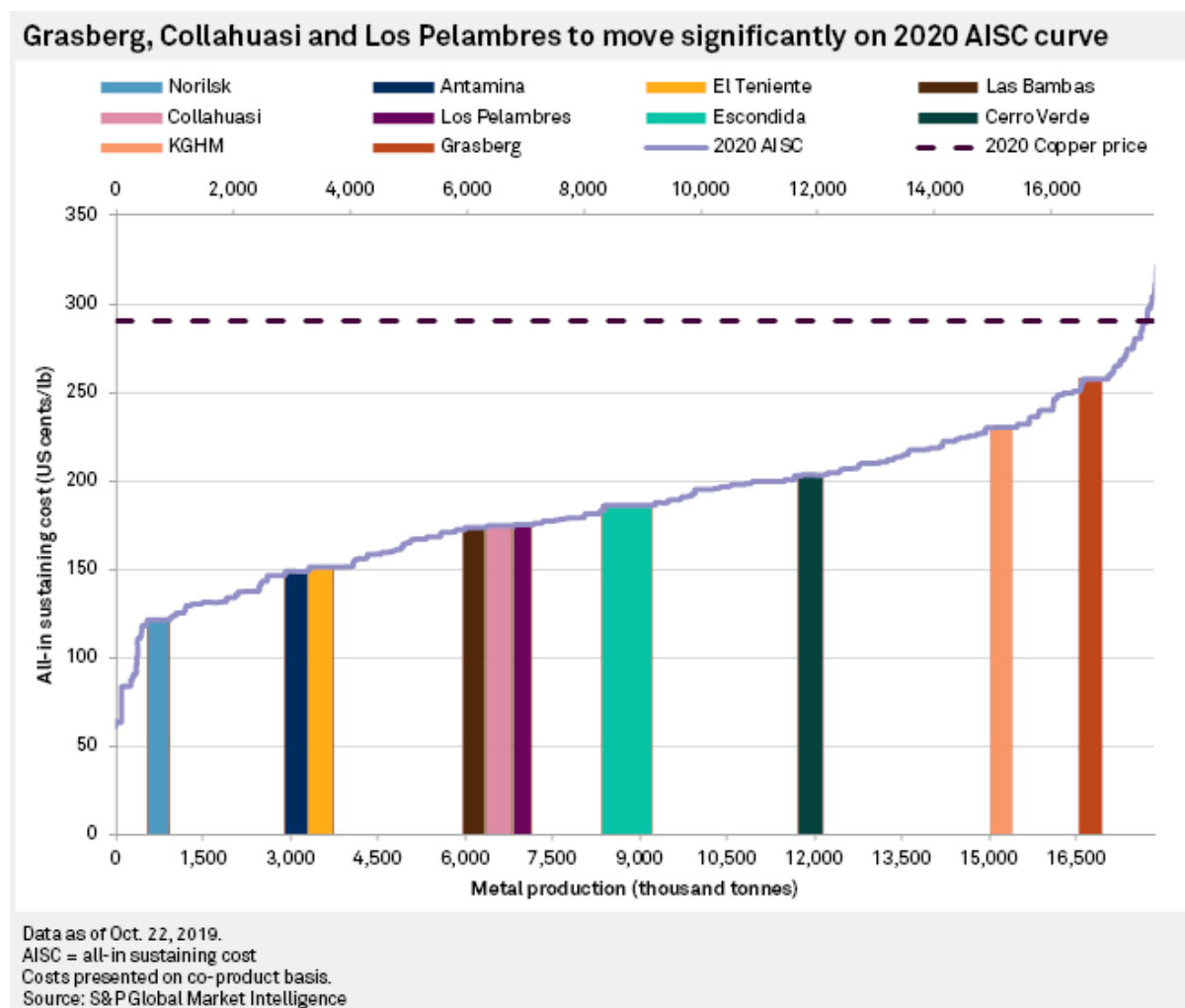
For those asking what to do with copper miners stocks? I have simply no idea, if copper stays at \$4.5 for longer, stocks will go up, if it falls, stocks will go down. Where will copper go depends on things we can't forecast now thus the question is impossible to answer.

You have to see how the risk and reward, compared to the individual stock price and value fits you.

Copper

On copper: \$4.5 is a really high price, it will likely incentivize more recycling, more production and growth, thus lead to normalized pricing again, typical for a cyclical.

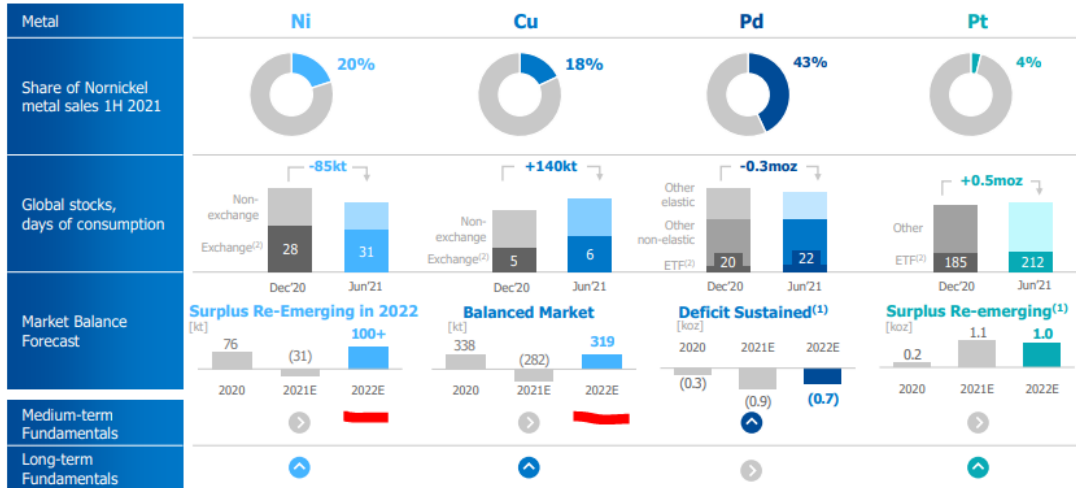
However, I feel long-term average copper prices might be a step higher from my previous cycle bottom estimate of \$2.5, thus we might put things 20% up now, to \$3 or even \$3.3 as a long-term average. But keep in mind production and especially investing costs have exploded too.



The best forecast for markets is usually given by Norilsk. They see both copper and nickel in a slight surplus in 2022 based on 2020 market expectations and estimations.

1H Financial Results | Markets Update

Metal Markets Outlook – View on Fundamentals



Source: Company estimates. Figures may not sum up due to rounding. Notes: 1. Excluding investments 2. In days of consumption

Also, keep in mind copper miners are flushed with cash at the moment, which means more investments equaling more production.

Current projects impact 2.1 MT of copper, which is 10% of the production, thus enough to cover for 3 years and stable economic growth.

Compelling Investment Case

For Copper & Freeport

Rising Demand

- Global Growth Accelerating
- New Demand Drivers for Clean Energy

Supply Scarcity

- Permitting
- Geology
- Longer Lead Times
- Pipeline is Thin

(million metric tons)

4.6

2.1

Only 8 projects > 100k Mt/a

51 Probable Projects (2012) vs 38 Probable Projects (Current)

Project Approval Rate Has Been Slow in Recent Years

Structural Deficits/ Premium Value

- Responsible Producer of Scale
- Strong Cash Flows
- Embedded Growth Options
- Long-lived Reserves
- Attractive Capital Allocation Framework

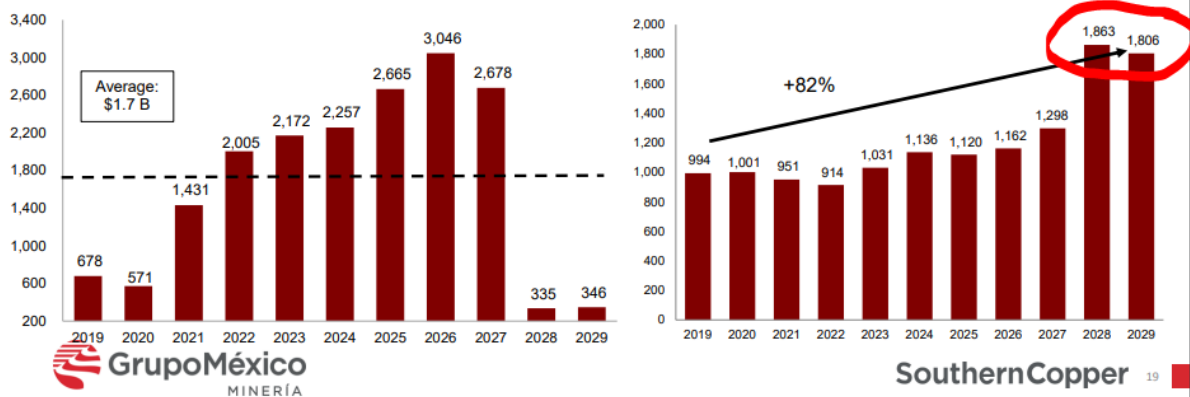
See Cautionary Statement. Source: Wood Mackenzie, December 2012 and June 2021

It takes time to build a mine, as it shows with SCCO's project that will add 1MT only in 2028.

Investment Program to Significantly Increase Production

Board approved		Other projects	
2017-2020 Buenavista: - \$3.1B program to increase capacity from 180K Tons Cu to 500K Tons Cu, 4.6K Tons Mo Toquepala Concentrator Expansion 4Q18 - \$1.2B - 100K Tons Cu, 3.1K Tons Mo	2021-2024 Pilares 1Q22 - \$159M 35K Tons Cu Buenavista Zinc Conc. 2023 - \$413M 20K Tons Cu, 100K Tons Zn El Pilar 2023 - \$310M - 35K Tons Cu Tia Maria SX/EW 2024 - \$1.4B - 120K Tons Cu	MEXICO El Arco Conc. & SX/EW 2H27 - \$2.9B 190K Tons Cu, 105K Oz Au Empalme Smelter 1H25 - \$1.1B	PERU Los Chancas Conc. & SX/EW 1H27 - \$2.6B - 130K Tons Cu, 7.5K Tons Mo Ilo Smelter & Refinery Expansion 1H25 - \$1.3B Michiquillay 1H28 - \$2.5B - 225K Tons Cu

2019-2029 Capex Program Overview (MM) 2019-2029 Copper Production Forecast ('000 MT Cu)



Source: SCC

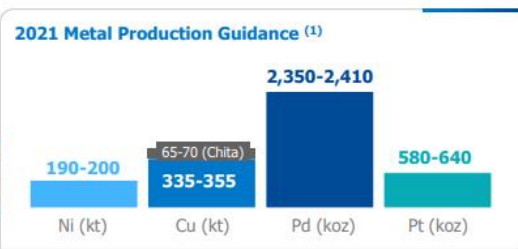
Other big projects are hanging in the air, but you never know. [Resolution](#)

The market is expected to remain balanced on the 2020 exuberant sustainability expectations that I feel might scale down a bit as it will not go as fast as people expected in 2020.

1H Financial Results Presentation

Short-term Outlook

- Ni** After a temporary marginal deficit in 2021, market to develop a surplus in 2022 as the rapid expansion of Indonesian NPI will outpace demand recovery driven by growth of stainless in Indonesia and battery sectors
- Cu** Market to remain balanced in 2021-2022 as improvement of broader economic conditions, energy infrastructure expansion and decarbonization agenda to support demand
- Pd** Market deficits expected in 2021-2022 as global auto industry continues strong recovery, supply losses in Russia will be offset by higher refined metal output in Africa and recycling, and substitution with platinum is still very limited
- Pt** Market to remain in structural surplus as the recovery in automotive, jewellery and other areas of industrial demand will lag behind the supply expansion



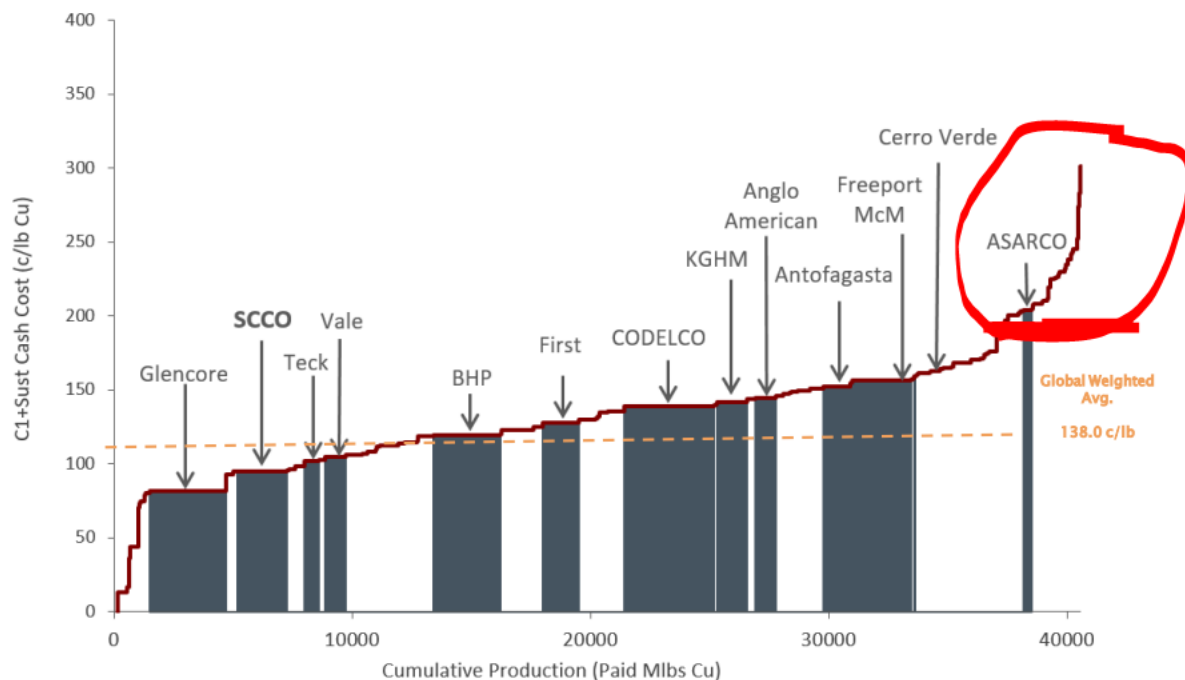
- Financial Outlook for 2H 2021:**
- EBITDA:** negative impact of circa USD0.5bn from new export duties
 - Working Capital:** approximately USD1.0 billion
 - CAPEX:** approximately USD3.0 billion (2)

Note: 1. Metal production guidance from Russian feed including Bystrinsky GOK
 2. Assuming 2021 average exchange rate USD/RUB 74.9

Of course, things are always impossible to predict, but what I can do is analyze the risk and reward. For now, it seems the risk is high with copper prices as the balance might be found a bit lower. And that is just the balance, with cyclical things spike up in exuberance and crash down in panic.

The cost curve tail is extremely steep, which means copper prices will be extremely volatile. 5% of production, which is around 1MT, makes the difference between copper prices of above \$4 or around \$3. That is a big deal.

Copper Production Cash Cost by Company



Source Wood Mackenzie Copper Mine Cost model, WMQ12019



I'll just wait for things to turn into more pessimism and then analyzed each copper miner as I usually do for the best investing opportunity. Thanks to high cash levels, debt issues might be resolved with many copper miners, so that might change the best investing opportunities out there.

Lundin

Amazing cash flows on high base metal prices. \$300 million in FCF in a quarter leads to \$1.2 billion per year.

Financial Highlights

Realized Metal Prices¹	Q2/21	Q2/20	Δ
Copper	\$4.58/lb	\$2.85/lb	61%
Gold	\$1,833/oz	\$1,865/oz	(2%)
Nickel	\$8.04/lb	\$5.58/lb	44%
Zinc	\$1.38/lb	\$0.91/lb	52%
Summary Financial Results²	Q2/21	Q2/20	Δ
Revenue	\$872M	\$533M	64%
Gross Profit	\$380M	\$142M	168%
Attributable Net Earnings	\$243M \$0.33/sh	\$39M \$0.05/sh	523% \$0.28/sh
Adjusted Earnings	\$227M \$0.31/sh	\$53M \$0.07/sh	328% \$0.24/sh
Adjusted EBITDA	\$481M	\$232M	107%
Cash Flow from Operations	\$419M	\$38M	1,003%
Adjusted Operating Cash Flow	\$432M \$0.58/sh	\$179M \$0.24/sh	141% \$0.34/sh
Free Cash Flow	\$299M	(\$48M)	-
Net Cash (Debt)	\$153M	(\$63M)	\$217M

1. LUN average realized price, including impact of provisional price adjustments. Realized price for copper is inclusive of the impact of streaming agreements.

2. Adjusted Net Earnings, Adjusted EBITDA, Adjusted Operating Cash Flow, Free Cash Flow and Net Cash (Debt) are non-GAAP measures. Please see Lundin Mining's MD&A for the three and six month

\$1.2 billion per year on the current market capitalization of \$5.5 billion (CAD\$ 6.88 USD/CAD-1.25) is a free cash flow yield of almost 22%.

Lundin Mining Corporation

9,36 CAD

+4.37 (87.58%) ↑ past 5 years

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1D | 5D | 1M | 6M | YTD | 1Y | **5Y** | Max



Open	9,48	Mkt cap	6,88B	CDP score	B
High	9,60	P/E ratio	8,87	52-wk high	16,07
Low	9,35	Div yield	3,85%	52-wk low	7,34

But, now you might wonder why is Lundin's stock going down, why is it down 40% from the peak while FCX is just 16% down from the peak. Plus, Lundin had really pushed on the dividend side of things where the current yield is at 5.7% (minus likely 25% dividend tax for a big part of investors).

Dividend Framework¹

lundin mining

Peer-Leading Regular Dividend

- regular dividend increased 50% to C\$0.09/share per quarter or C\$0.36/share annualized
- 125% increase over the December 2020 dividend payment
- sustainable throughout the cycle; declared and payable quarterly

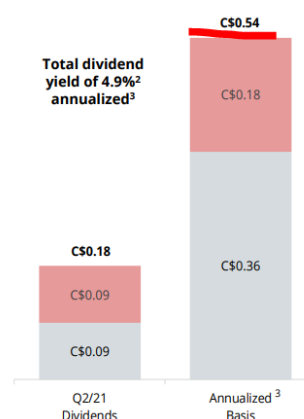
Inaugural Performance Dividend

- H1/21 performance dividend of C\$0.09 per share declared
- targeting a minimum return of 40% available cash flow, less regular dividend payments over prior six-month period. Available cash flow is defined as operating cash flow after capital investments, contingent payments and distributions to partners
- declared and payable semi-annually

H1/21 Performance Dividend	Six Months Ended June 30, 2021
Operating cash flow	\$578M
less capital investments	\$244M
less contingent payments	-
less distributions to partners	\$16M
Available cash flow	\$318M
Target minimum return of 40%	\$127M
less regular dividend payments	\$71M
Performance dividend	approximately \$56M or C\$0.09/sh

Dividend Payout (C\$/share)

■ Base Dividend ■ Performance Dividend



1. Lundin Mining's dividend framework is non-binding. Dividends are at the discretion of and to be declared by the Board of Directors.
 2. Based on Lundin Mining's July 27, 2021 closing share price of C\$11.12 per share.
 3. Presented on annualized basis for illustrative purposes only.

The thing is that mining is and will always be a difficult and ugly business, definitely non linear and that is something the market hates. Issues related to Lundin:

- Candelaria production missing estimates on fault, grade, and crushing issues. (are the issues temporary or structural is the key question – time will tell)
- Mineral reserves not increased due to COVID drilling stops (you can't know what is in the ground, so again an unknown.
- The CEO Marie Inkster [has resigned](#) and the new CEO will be Peter Rockandel.

Lundin always manages to solve issues in a way or another but when mining issues are a given. The CEO said no to any new acquisition as things are too expensive so that might indicate they expect prices to fall, as copper is and always has been a cyclical commodity.

The world bank sees prices of copper at least 20% below current for the long-term.

World Bank Commodities Price Forecast (nominal US dollars) Released: April 20, 2021

Commodity	Unit	2015	2016	2017	2018	2019	2020	Forecasts						
								2021	2022	2023	2024	2025	2030	2035
Energy														
Coal, Australia	\$/mt	58.9	66.1	88.5	107.0	77.9	60.8	78.0	76.1	74.2	72.4	70.6	62.3	55.0
Crude oil, avg	\$/bbl	50.8	42.8	52.8	68.3	61.4	41.3	56.0	60.0	61.0	61.9	62.9	68.2	70.0
Natural gas, Europe	\$/mmbtu	6.8	4.6	5.7	7.7	4.8	3.2	5.5	5.6	5.6	5.7	5.8	6.1	6.5
Natural gas, US	\$/mmbtu	2.6	2.5	3.0	3.2	2.6	2.0	2.8	2.9	2.9	3.0	3.1	3.5	4.0
Liquefied natural gas, Japan	\$/mmbtu	10.9	7.4	8.6	10.7	10.6	8.3	8.0	8.0	7.9	7.9	7.9	7.7	7.5
Fertilizers														
DAP	\$/mt	417	316	323	393	306	312	450	425	400	375	350	383	420
Phosphate rock	\$/mt	120	110	90	88	88	76	90	92	94	96	98	108	120
Potassium chloride	\$/mt	296	260	218	216	256	218	205	211	216	222	229	262	300
TSP	\$/mt	378	290	283	347	295	265	410	380	360	340	320	349	380
Urea, E. Europe, bulk	\$/mt	278	194	214	249	245	229	300	304	308	312	316	337	360
Metals and Minerals														
Aluminum	\$/mt	1,665	1,604	1,968	2,108	1,794	1,704	2,000	2,050	2,075	2,100	2,126	2,259	2,400
Copper	\$/mt	5,510	4,868	6,170	6,530	6,010	6,174	8,500	7,500	7,555	7,611	7,667	7,953	8,250
Iron ore	\$/dmt	55.9	58.4	71.8	69.8	93.8	108.9	135.0	100.0	98.3	96.6	95.0	87.2	80.0
Lead	\$/mt	1,788	1,867	2,315	2,240	1,997	1,825	1,950	1,900	1,910	1,920	1,930	1,982	2,100
Nickel	\$/mt	11,863	9,595	10,410	13,114	13,914	13,787	16,500	16,000	16,146	16,293	16,441	17,203	18,000
Tin	\$/mt	16,067	17,934	20,061	20,145	18,661	17,125	25,000	23,000	23,148	23,297	23,447	24,211	25,000
Zinc	\$/mt	1,932	2,090	2,891	2,922	2,550	2,266	2,700	2,400	2,408	2,415	2,423	2,461	2,500
Precious Metals														
Gold	\$/toz	1,161	1,249	1,258	1,269	1,392	1,770	1,700	1,600	1,550	1,525	1,500	1,549	1,600
Silver	\$/toz	15.7	17.1	17.1	15.7	16.2	20.5	25.0	22.0	20.0	19.0	18.0	19.0	20.0
Platinum	\$/toz	1,053	987	948	880	864	883	1,100	1,110	1,120	1,131	1,141	1,194	1,250

Copper ore price forecast – Source: [World Bank](#)

But, when it comes to investing, you never know how long will the boom in the cycle last – if it lasts two years, Lundin might make \$2.5 billion, if prices crash like we have seen with iron ore, it can be over tomorrow.

When investing in cyclicals, I prefer to focus on the cycle average, focus on the cost of production and a margin of safety – thus at worst case scenario for longer I am ok.

With Lundin and with the recent Candelaria issues, the higher copper prices, I will not amend my valuation but I will change the terminal multiple – 20 on FCF is too much if I count in the dividends. 12 on FCF at average cycle should be ok, also giving a good return.

LUNDIN M **LINK** <https://sven-carlin-research-platform.teachable.com/courses/335443/lectures/16615670>

STOCK VALUE LIST!A1												Terminal Value	Growth rate	
Scenario 1	FCF	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2031	6%	next 5 years
normal case	600.00	636.00	674.16	714.61	757.49	802.94	818.99	835.37	852.08	869.12	886.51	10429.48	2%	5 to 10 years
in EUR	10%)	173.45	167.15	161.07	155.21	149.57	138.69	128.60	119.25	110.58	102.54	4021.01	10%	Discount rate
	INTRINSIC VALUE	5427.12										12.0	Terminal multiple	

Thus, for a 10% return Lundin seems fairly valued. For miners I prefer 20%, thus I'll keep waiting for things to get ugly again with copper. Sooner or later, it will happen again.

Just some notes from the conference call: Not expected that the Candelaria issues are for longer, growth might have to come from acquiring projects with a long date of production which is something they haven't done yet.

Now are these issues limited to 2022 or 2023? Or should we be also taking a hatchet to what's in the mine plan for 2024 and 2025? I mean the technical report calls for production – copper production in the order of over 190,000 tons in those years? It sounds like what I'm hearing is that these are more structural issues that are going to impact life-of-mine, not just 2022, 2023. Is that correct in my thinking?

Marie Inkster

Well, I think, you're being a bit dramatic or seeing that – you're taking a hatchet to the plan. It's still a good plan and we are working on our opportunities to improve the throughputs and there are also opportunities. Right now, we could improve some in the underground to improve the grades were permanent constraints. We actually could move more ton to the underground. So, there are a number of things that we're looking at. In November, we will give a three year guidance and give some future trending then. So incorporating those plans in the future years, but I think saying you're going to take a hatchet to the plan at this point is a little overdramatic.

Marie Inkster

Yes. So the dividend doesn't change our views on M&A. We'll still continue to look for opportunities, still focusing on copper. There aren't a lot of opportunities out there and with the characteristics that we would typically look for in the quality that we would typically look for. So we're not seeing a lot right now and something that we'll have to discuss with our board is whether we turn our attention to things that may be a little bit longer dated in order to get some growth in the pipeline, because typically we haven't entered into those types of situations, but really with the lack of available growth opportunities, if we want to continue to grow, we need to do that.

