Market Multiples of Preproduction Gold Projects as of Feb 1 2021

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The current spot gold price on Feb 1, 2021 is $1860.00 per ounce, a decline of 2.03% since the year-end Dec 31, 2020 gold price of $1898.60 per ounce.

Valuation Methodology for the Junior Gold Sector

In the gold mining industry, it is common for analysts to consider an after-tax 5% real discount rate in conjunction with a net asset value ("NAV") multiple to value an asset or company. More precisely, where a NAV multiple of less than 1.0 captures the incremental risk relative to the 5% real discount rate and a NAV multiple of greater than 1.0 implicitly ascribes value to upside. The NAV multiple fluctuates with metal prices, value increment attributable to management flexibility to slow or accelerate mining operations in response to metal prices, and the likelihood of mining for longer periods or at higher volumes than determinable from known reserves and resources which may result from further exploration and discovery of new mineable material.

Project De-Risking and Discounts

The value computed based on a 5% discount rate and an application of a NAV multiple is referred to as the Price/NPV5%ratio and at a given gold price deck provides a first level ranking of project and company relative valuations. For our purposes, "Price" equates to Total Enterprise Value (TEV), the equation for which follows:

Methodology

As every jurisdiction has its own unique permitting issues, political, operational, and other risks, I decided initially to keep things simple and restrict the analysis to: 1) mining projects located within Canada and the USA with less than 200,000 ounces of annual AuEq production, 2) PEA's that were published in the last 5 years, 3) a consensus analyst gold forward price deck of $1600 per ounce, 4) an effective corporate income tax-rate of 25% to convert before tax margins to after tax if required, and 5) use the actual PEA published capital costs, operating costs, gold recoveries, etc. and resist the temptation to modify the particulars or add in the usually missing owner's or financing costs required based on my own experiences to get the project into production.

I selected and reviewed: 1) 14 PEA studies on gold projects located in Canada (4 in ON, 3 BC, 3 QC, 2 YT & 2 NL) owned by 12 publicly traded development stage companies, and 2) 12 PEA studies on gold projects located in the USA (5 in NV, 2 ID, 2 CA, 1 AZ, 1 WY & 1 AK) owned by 10 publicly traded development stage companies. I assumed that the projects in the PEAs comprised most, if not all, of the related company's TEV and no additional value was given in the analysis for resources delineated or potential of other properties.

Note that Fury Gold Mines and O3 Mining each have two projects at the PEA stage in the Canadian series, and Kore Mining Ltd. and Corvus Gold Inc. each have two projects at the PEA stage in the US series. Interestingly, the companies that control these 24 gold projects trade on the North American stock exchanges, except for Landore Resources (Junior Lake project) which trades primarily on the AIM, and Matador Mining (Cape Ray project) which trades primarily on the ASX.

On January 14, 2021, O3 Mining Inc. reached an agreement to sell their PEA Stage Garrison Gold project to Moneta Porcupine Mines Inc. for 150 million common shares of Moneta, equating to a purchase price of US $40.5 million and a NAV multiple of 11.9% of the Garrison Project's NPV 5%. This looks like a smart deal as O3's Garrison and Moneta's Golden Highway currently display low Profitability (i.e. too much capital for the cash flow generated) per the charts below and their exists potential with a joint development program to unlock substantial synergies by consolidating the two projects with a higher grade and lower strip starter pit at Garrison and reduced capital expenditures as common buildings, process plant area, and tailings storage areas are combined.

PEA Valuation

Of the 14 PEA stage gold projects reviewed in Canada

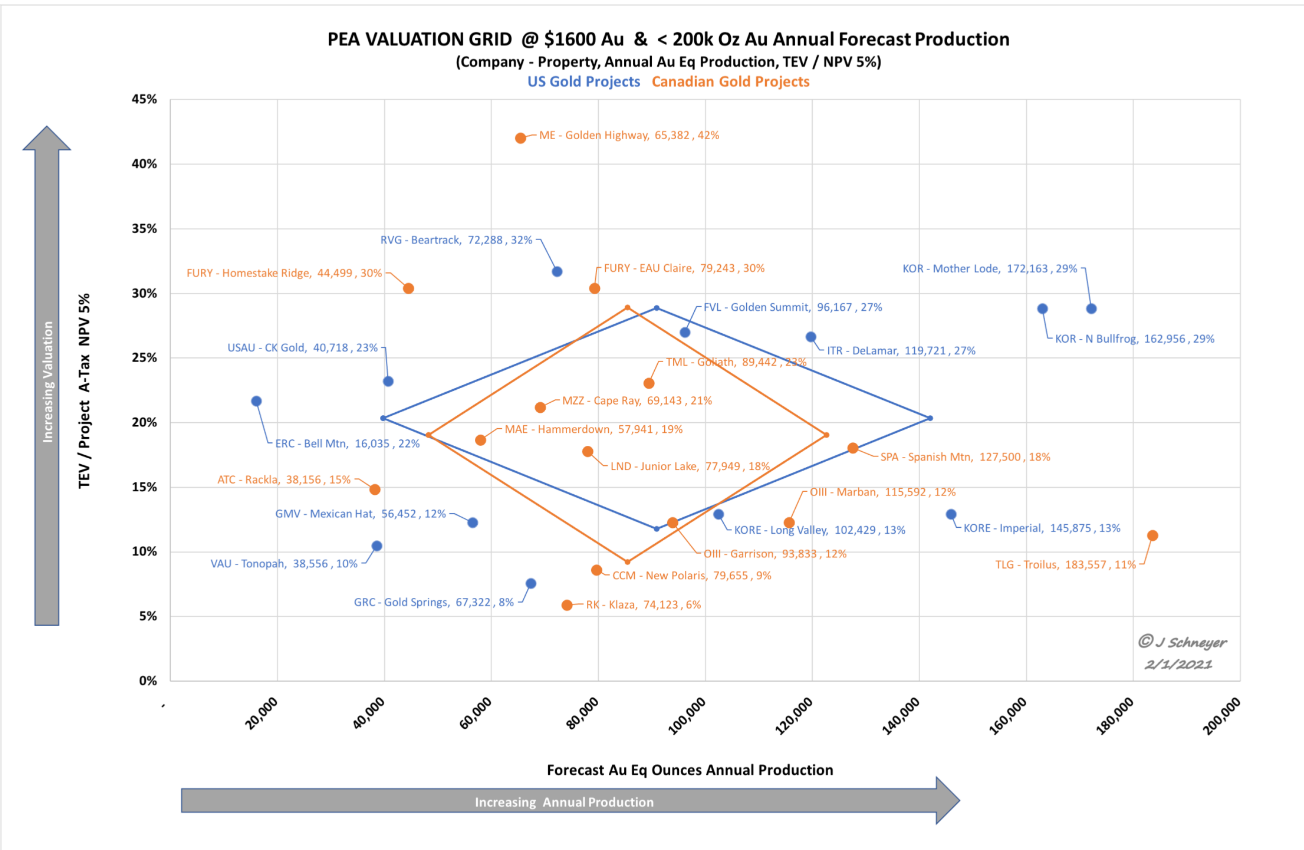
- the mean projected LOM annual production is 85,430 gold equivalent ounces per year, the standard deviation about the mean being 37,194 ounces per year.
- On Feb 1, 2021 the mean market NAV multiple is 19.1% of NPV5% with a standard deviation about the mean of 9.9% at spot gold price of $1860.00 per ounce.
- Note that the December 31, 2020 mean market NAV multiple was 20.2% of NPV5% with a standard deviation about the mean of 10.1% at a spot gold price of $1898.60 per ounce. So while the spot gold price retreated 2.03% ytd, the NAV multiple fell-by 5.4%.

Of the 12 PEA stage gold projects reviewed in the USA:

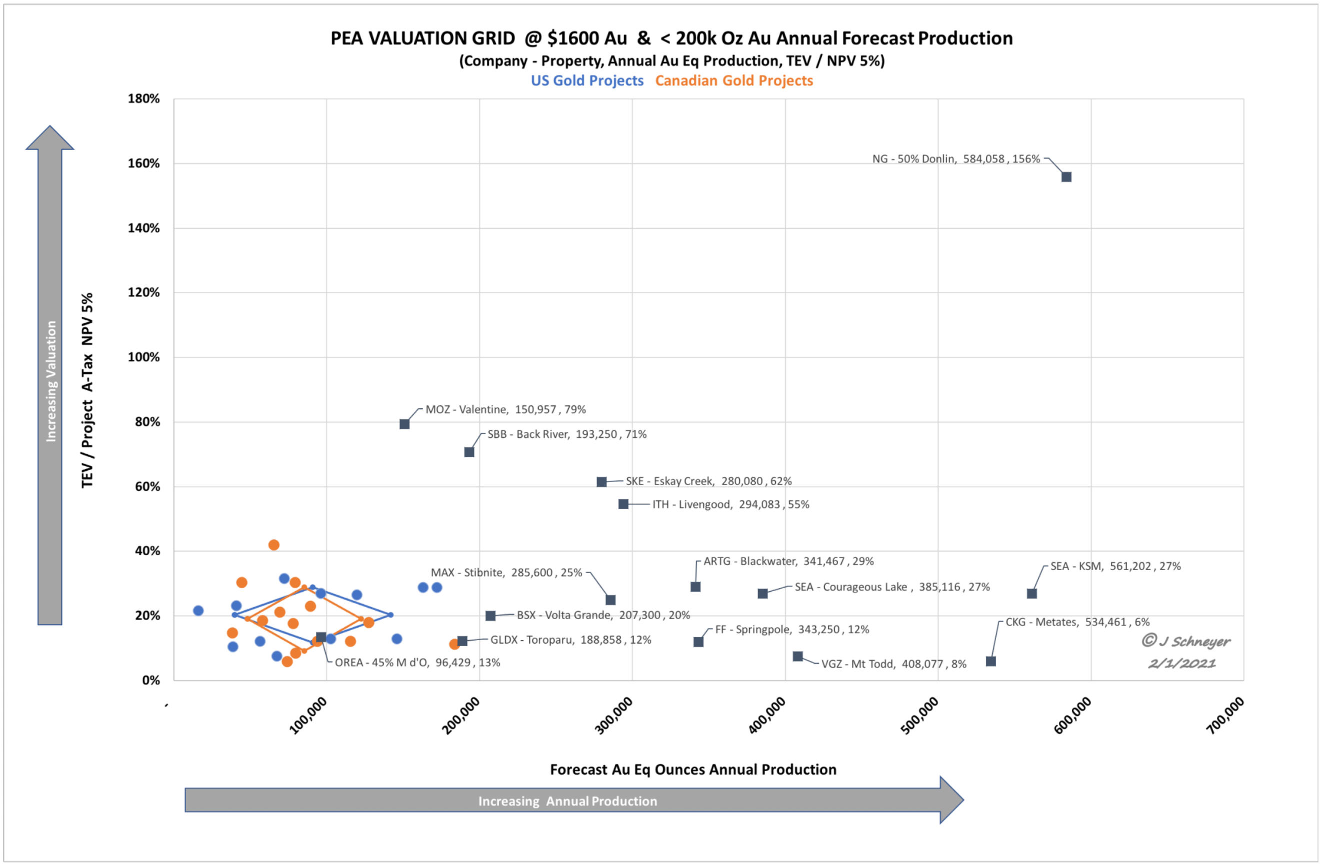
- the mean projected LOM annual production is 90,890 gold equivalent ounces per year, the standard deviation about the mean being 51,134 ounces per year.
- On Feb 1, 2021 the mean market NAV multiple is 20.3% of NPV5% with a standard deviation about the mean of 8.6% at spot gold price of $1860.00 per ounce.

- Note that the December 31, 2020 mean market NAV multiple was 25.1% of NPV5% with a standard deviation about the mean of 10.7% at a spot gold price of $1898.60 per ounce. So while the spot gold price retreated 2.03% ytd, the NAV multiple fell by an incredible 19.1%, perhaps reflecting investor concerns with the new Biden administration in the USA restricting leasing and or permitting of Federal Lands for resource extraction.

The mean and standard deviation are graphically displayed on the accompanying charts as diamond shapes, orange for Canadian gold projects, blue for US gold projects.



Next let's compare a diverse group of development stage gold projects at the PEA, PFS, & FEAS stages with forecast production of greater than 200,000 oz AuEq per year with the series of Canadian-US PEA stage gold projects with less than 200,000 oz of AuEq production per year discussed above. Note the wide valuation spread of these megaprojects, with 5 (Donlin, Valentine, Back River, Eskay Creek, and Livengood) showing market NAV multiples exceeding an astounding 55% of NPV5%, for projects not yet financed or even under construction!



PEA Risk

Of course, projects at the PEA stage still carry considerable "development" risk. Time and money still need to be invested in these projects that is above and beyond that detailed in the PEA studies to successfully advance through Lassonde's "Orphan Period". As well, there exist a number of risks that could derail the project's timely development including failure to acquire the social license to operate, management inabilities to perform and cultivate a market following, permitting delays, capital and operating cost creep, geologic misinterpretations, process/scale up risk associated with moving from the metallurgical test lab to the real world, financing and access to capital difficulties, etc.

Profitability Index

It is worth noting that company presentations comparing insitu grade or M, I, & I contained ounces only further confuse and don't provide any meaningful insight into profitability as extraction costs (both capital and operating) and mineral recoveries can vary greatly from project to project. Notwithstanding that all of the projects included in the chart above currently trade at significant discounts to NPV5%, they still require significant amounts of capital to be brought into and sustain commercial production, and then complete a closure plan. For our purposes, "Profitability" equates to Return on Investment (ROI), the equation for which follows:

Profitability (or ROI) = (A-Tax NPV 5%) / (Life of Mine Capital Investment)

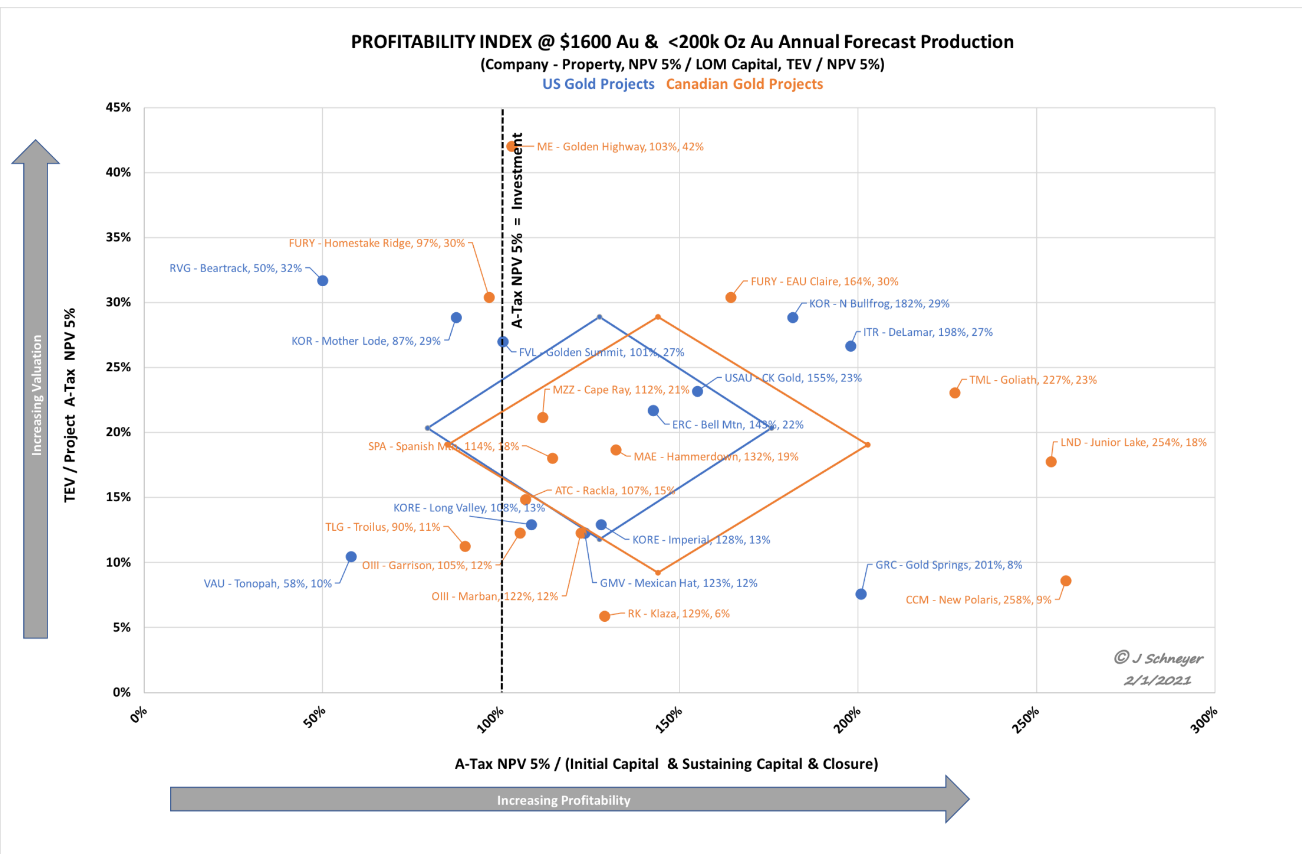
Note that LOM Capital Investment includes not only the initial capital to construct the project, but both sustaining capital to keep the operation running and net closure costs. It's a "conservative" analytical approach to take, but then again gold mining is a risky business. If "mine profits" are in fact going to be required for reinvestment to keep the operation going, there is less free cash flow available for exploration, acquisitions, or distribution to shareholders.

Of the 14 PEA stage gold projects reviewed in Canada:

> the mean projected LOM profitability (i.e. A-Tax NPV 5% / (Initial Capital + Sustaining Capital + Closure) is 143.9%, the standard deviation about the mean being 58.8%.

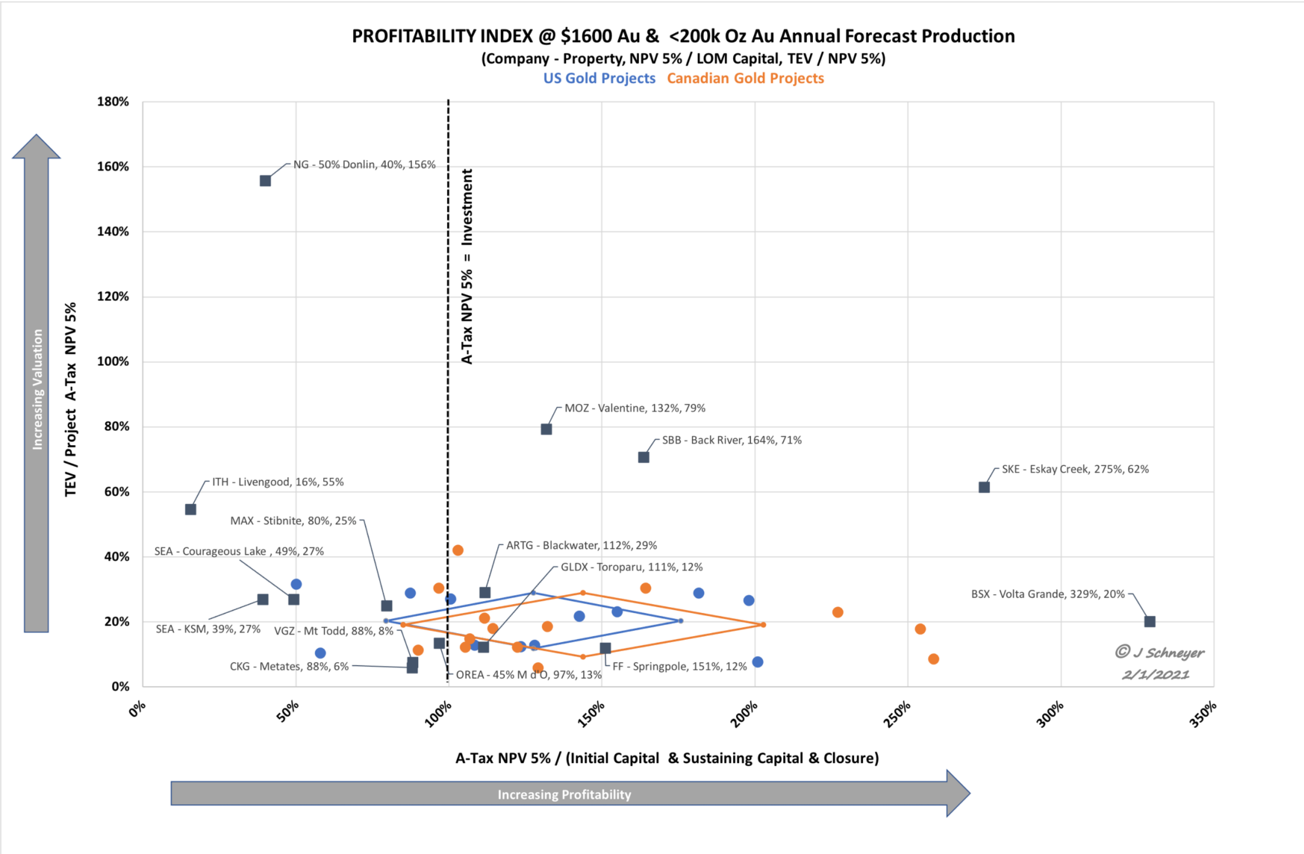
Of the 12 PEA stage gold projects reviewed in the USA:

> the mean projected LOM profitability (i.e. A-Tax NPV 5% / (Initial Capital + Sustaining Capital + Closure) is 127.6%, the standard deviation about the mean being 48.2%.



Next let's compare the projected profitability of the diverse group of development stage gold projects at the PEA, PFS, & FEAS stages with forecast production of greater than 200,000 oz AuEq per year with the series of Canadian-US PEA stage gold projects with less than 200,000 oz of AuEq production per year discussed above.

Note the large number of well-known megaprojects that look to be marginal investments unless gold prices rise or significant resources can be upgraded from inferred and included in the mine plan at the current consensus analyst $1600 gold price.



Source of Data

1. S&P Capital IQ for company share price and market capitalizations as of Dec 31, 2020.
2. PEA studies and or results published on company websites, press releases and or presentations, and SEDAR. See https://sedar.com

I welcome your comments, please contact me if you have any thoughts on future studies and or analysis you would like to see. I can be reached at jschneyer@capstoneheadwaters.com

Full Disclosure

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