Canadian
Mining Report

# Analyzing Junior Gold Mining Stocks

*February 2025*

# A Framework for Analyzing Junior Gold Miners

*Where is the junior miner in the development cycle, and what is the stage of the gold price cycle?*

## Junior gold miners, from Dream to Reality

In this report we provide a framework to help general investors in analyzing junior gold miners, providing context for; 1) where the company is in the mining development cycle, between an unexplored land plot, 'the Dream,' and a mine ready to enter production, 'the Reality', and 2) where we are in the gold price cycle, and digging into the details for these cycles, and how they tie into junior gold miner valuations.

*Considering five key factors at each phase in the mining development cycle*

## A five-factor model of mining development

In this context, we address five crucial factors which need to be appropriate to the given stage of mine development and the stage of gold price cycle; 1) the management team and strategic shareholders, 2) the property, its history, geography and level of development, 3) the firm's financial position and ability to continue to raise capital, 4) the current flow of core short-term drivers, with a focus on companies' press releases, and 5) the level of the valuation in absolute terms, and relative to other firms.

*Keeping all these factors right for the right time until either acquisition or production is the balancing act that all junior gold miners need to make*

## A sustained balancing act for junior gold

Given all these issues, junior gold miners undertake a difficult balancing act of the right management and financing for the right property at the right phases of the cycles, while delivering timely reporting on core drivers, all with a valuation that has not gone too far too fast. Given the many years that it takes to move from 'Dream' to 'Reality', few junior gold miners reach success, defined as a completed mine, or acquisition of the project (at any stage). This guide is intended to help investors determine just how well a given junior mine has this balancing act down at a given time.

*The Canadian Mining Report*

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# A) The Mining and Gold Price Cycles

## 1) A Four-Phase Model of the Junior Mining Process

| Phase | Early Exploration | Later Exploration | Mine Development | Production |
|---|---|---|---|---|
| Overview of process | Geophysical surveys, initial sampling, determining where to explore on the property | Extensive drilling programs to further define and expand resource, PEA released | Mine is planned and construction begins, exploration likely continues to extend life of mine | Mine moves into production |
| Strategic Shareholders | Strategic shareholder less likely as junior takes on most of risk | Strategic shareholder may enter in this phase on strong drilling results | Strategic shareholder likely to enter given high capital requirements | Strategic shareholder may initiate full acquisition of mine |
| Management | Geologists to outline potential resource | Geologists and drilling team to further define resource | Mine development team enters, and exploration team continues | Team or company with long history of mine operation |
| Property | Property can range from unexplored to historically producing | Specific project is becoming roughly defined | The project is clearly defined, but may still be expanded | The project can still see upgrades in resource size |
| Financials | Cash likely low, equity financing from private investors, from $100k to under $5mn, and a bare bones budget | Company may be able to raise $0.5mn-$5mn in equity on drilling results; cash covers a year or two of expenses | Capital requirements much higher, and with longer-term outlook, large outside firms may enter financing | Very large upfront initial cost for mine development, likely funding or acquisition from outside party |
| Drivers | Sampling and surveys, definition and expansion of resource, acquisition of properties | Drilling results, expansion of property and/or resource, PEA, feasibility studies, secured financing | Progress on mine construction, resource expansion, further securing of financing, getting acquired | Output growth reported, costs are controlled or reduced, resource is further expanded |
| Valuation | Difficult to ascertain clear value | M&I resource may be defined, PEA may estimate NPV | P&P resource will be released, allowing clearer valuation | Mine value much clearer as cash flows make DCF possible |

*Source: Canadian Mining Report*

**The mining development cycle from 'the Dream' to 'the Reality'**

We believe the investors in junior gold mines should begin their analysis with an assessment of where the junior miner is in relation to two cycles, the mining development cycle, and the gold price cycle, and then consider all other factors within this context. As the chart above reflects, we expect to see very different things—in terms of management, projects, financials, core drivers of share price, and level of valuation by the market—for a company in the early stages of exploration to one that has an advanced stage project with a proven discovery, which is on the cusp of becoming a producing mine.

We could frame this development process development process as a move from 'the Dream' to 'the Reality'. 'The Dream' is the initial stages where company acquires a property with a certain belief about its potential, before any major exploration or capital expenditure has taken place, and 'the Reality' is a project actually producing gold today.

We also need to consider where we are in the gold price cycle. Even solid projects that could be expected to easily attract strong strategic shareholders and substantial capital may not be able to move forward at the low point of the gold price cycle. Also, even weaker projects that should likely be avoided may inadvertently see considerable market backing in a gold price boom. Fortunately for the sector, we are in the earlier stages of what appears to be a gold boom, and consensus analyst forecasts suggest that this will continue.

With these cycles in mind, we proceed with the details, first for mining development, and then for the gold price. Then we take the five main factors we view as being particularly influential in driving a gold mining stock; 1) management, 2) the property 3) the financials, 4) the flow of core drivers, usually in the form of press releases, and 5) the valuation, and consider them within the framework of these cycles, to determine where we are between 'the Dream' and 'the Reality'.

## Phase i) Property acquisition and early exploration

The first step a junior miner must take is to acquire a property to explore. This can range from 100% ownership of a property to no direct initial ownership, and only an option to eventually purchase some of the property in the future if exploration proves successful, and various states in between, including joint ventures. These properties can take three basic forms; 1) ***an entirely greenfield property which has seen no exploration*** and about which there is only a basic geological concept, 2) ***a property which has seen some surveying, surface sampling and drilling,*** but has not been well explored, either because of disappointing previous results or a downturn in the gold price cycle, and 3) ***properties that have seen historical production,*** with the plan usually to substantially expand the prior resource, through exploration at, or near, the existing property.

Overall, whichever of the three types of basic acquisitions the junior makes, the company will proceed through three main steps in the first phase; ***1) surveying and gathering geological information*** to develop a clearer picture of the property, and what areas of it have the highest probability of holding resources (some of this information may already be available from previous rounds of exploration historically by other companies), 2) using the geological information begin to do ***initial or follow up surface drilling and 3) moving on to more targeted drilling.*** This begins the shift into Phase 2.

Throughout this stage, the company may report encouraging surveying, geological, and basic drilling results, all of which can drive up the share price. However, the gains will tend to be limited until the second phase, as things remain speculative in this early exploration phase, and certainly closer to 'the Dream' than 'the Reality'.

## Phase ii) Advanced Exploration

## Phase ii) a) Permitting and drilling

Generally, the ***junior gold miner may need to gain permits to proceed*** with more extensive drilling, and in some cases, may even need permits for earlier stages of exploration. ***After the permitting, the company moves onto an extensive drilling program,*** which can require especially large amounts of capital, and can be a stage where we especially start to see the entrance of strategic shareholders, management shifts, and large moves in the share price as drilling results are released. These drilling results are the real 'proof of concept', where 'the Dream' really starts to shifts 'to Reality'.

At this stage, if drilling results prove underwhelming, or appear to be inconsistent with a model developed by the company's geological team, a company may decide to end its exploration activities and possibly sell the property. In that scenario, the company may shift gears to another project in its portfolio, or it may acquire a new project and start the process anew. (Meanwhile, another junior, with a different theory and model, may decide to acquire the project.)

## Phase ii) b) Feasibility and preliminary economic assessment

Once a company has a series of sufficiently successful drill results, indicating an economically significant deposit, it will move onto commissioning a ***Preliminary Economic Assessment (PEA) and Feasibility Study.*** A PEA is carried out by an independent firm, which will examine the existing results and offer an estimate of resources in various categories, which, ordered from most to least certainty are; ***Measured, Indicated, and Inferred Resources.*** This is one of the most significant steps for a junior gold miner and marks the shift from internally reported drilling results to an independently estimated overall resource for their project. It can be a major driver for the share price.

From there, the company typically moves toward an even more specific kind of assessment, ***the Feasibility Study, which outlines the potential for taking the estimated resource and developing an operating mine.*** Again, if the results of this process are promising, in terms of the economic feasibility of the discovery, it can have a very significant effect on the share price. Conversely, there is another chance for a major dip in the share price if the results are disappointing at the PEA and Feasibility Study stages, and the company is unable to take the project to the next phase of development or cannot secure additional funding, partner with another firm, or be acquired.

## Phase iii) Developing the mine and expanding the resource

Once the mine reaches the Feasibility Study stage, ***the company is moving towards taking the project into production,*** or developing a mine. For most juniors that reach this stage, a large proportion of their valuation as a company will come from this one advanced stage project, even if they have other projects in their portfolio, which they continue to explore. The junior will also continue expanding the resource through exploratory drilling while the mine development phase progresses, and resource expansion can continue well into the actual production of a given mine. As development of the deposit continues, we may also see another estimate released of ***Proved and Probable Reserves*** which is the highest level of certainty, above Measured, Indicated, and Inferred Resources. We note the shift in the nomenclature from Resources (less certainty) to Reserves (much more certainty).

This is a stage where we may see the greatest chance of an acquisition by a larger firm, like a major or junior producer, ***as the junior miner may actually not have a comparative advantage in building and operating a mine.*** Nonetheless, some junior exploration companies transition to become junior producers (and occasionally major producers), particularly where their management teams have significant experience building and operating mines and where the capital needed to begin production is modest. However, more often than not, a larger company will have a comparative advantage in building and actually operating the mine and therefore a larger firm with a strong record of production may be better suited for this phase.

## Phase iv) Establishing, operating and closing the mine

In this fourth phase, we are really talking about ***a company that is shifting away from being a junior explorer, and becoming a junior producer.*** As stated above, some juniors do have sufficient expertise and access to capital to become producers themselves, and they may elect to build and operate a gold mine and continue to develop new projects. During this phase, the company may continue to develop its other exploration projects, and acquisition by a larger company always remains a possibility. There are even rare cases where a company transitions from junior explorer to junior producer to major producer. From an investment perspective, a junior producer necessitates a different kind of analysis, and in the rest of this report, we are principally focused on the first three stages of the cycle just described.

# 2) Considering the Gold Price Cycle

## The effect of the gold price on junior miners

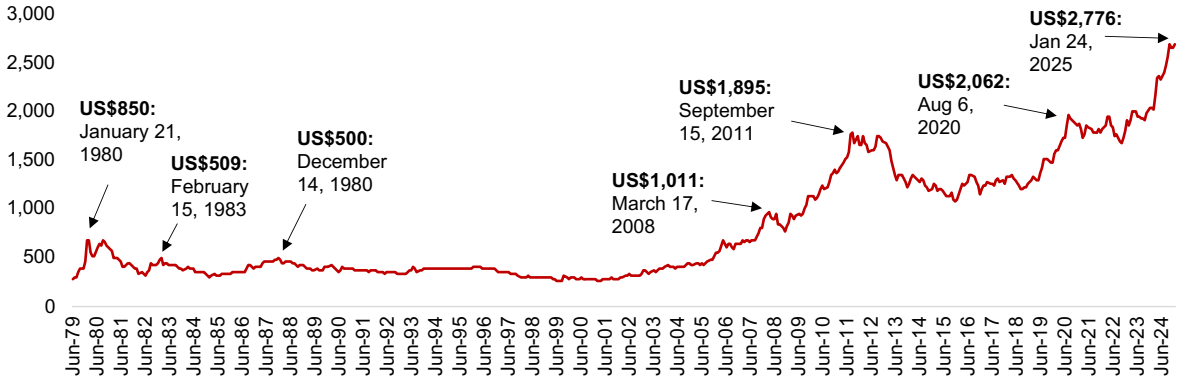
Now that we have placed the junior gold miner within the context of its development cycle, we now need to consider the gold price, and where we are in its cycle, which is possibly the most important macroeconomic factor in assessing the value of a junior gold miner and its projects. Since the ***junior gold miners are only engaged in exploration activities, and have no production,*** the gold price is not directly reflected in their financial statements in a revenue line that would be present for junior or senior producing mines.

However, the gold price is obviously omnipresent in the junior miner's valuation. This is because the market is always considering three factors when valuing the junior; how much gold is potentially there, what price can be had for it the market, and how much will it cost to get out of the ground. The farther along the mine in the development cycle, the greater the certainty the company, its shareholders, and the market will have about those figures.

This kind of valuation is crucial to two parties; 1) first ***the potential strategic partners*** that can either take a stake in the junior miner, or eventually acquire it (or one of its properties) outright, and 2) ***other investors,*** either those looking to supply capital to the junior through private placements, or the general market, who can bid up share prices. With extraction costs for a given deposit tending to be predictable over the medium term, a certain gold price must be reached before a project looks potentially profitable.

Therefore, at the lows of the most recent gold price cycle from 2013 to 2018, while a given junior could have had strong potential resources at a project, the low gold price could make it uneconomic to pursue for the junior miner itself, or a potential acquirer. At the same time, ***a low gold price can make it more difficult for junior miners to raise capital to keep exploring*** especially high risk, high potential reward projects, limiting the chance for strong new finds. However, as the gold price rises, a virtuous cycle goes into effect; producing miners have higher margins and greater cash flow, allowing them to invest more into juniors, increasing the chance of a substantial find, further boosting the value of its project, and further drawing in capital.

**Figure 2: Gold price cycles**




Source: Yahoo Finance

## The gold bull market continues, although 2025 opaque

This type of virtuous upswing began in 2019, with the price nearly reaching US$2,100/oz in August 2020. While the price remained range bound from mid-2020 to late-2023 between just below US$1,700/oz and just above US$2,100/oz, reverting consistently to a US$1,800/oz average but never declined enough to indicate an end to the bull market. The price took off again in 2024, breaking out to all-time highs above US$2,700/oz on a combination of a return to global monetary expansion and excessive geopolitical risk (Figure 2).

While we had been upbeat on gold at the start of the last four years, ***we have become slightly more cautious this year, given a more opaque outlook for many factors.*** There is a chance geopolitical risk could cool under the new U.S. government, reducing the significant premium we estimate is priced into the metal for this factor. Some central banks have also indicated the aggressive rate cuts of the past year could slow and reduce money supply growth, which is a major factor driving gold. While strong central bank gold purchases continue, they declined in 2024, and retail gold ETFs inflows surged, with the broader market's move into an asset often a signal a bull market is starting to mature.

This is not, of course, to entirely discount the bull case, which would see lower interest rates, a resurgence of inflation and political issues and high central bank and ETF gold purchases. However, it may be prudent to moderately increase the weighting of the downside scenario given the huge run of the past year.

***Having considered both the mining development and gold cycle context, we now turn to considering the five factors within this framework.***

# B) Five Factors for Junior Gold Miners

## 1) Strategic Shareholders and Management

### Considering management and strategic shareholders first

When starting with the five factors, we could say that three of the factors, the financials, press release drivers and the valuation to some extent all follow from two very core drivers; ***the management*** and ***the property.*** But between these two factors, which one should be first? We propose that it should be management, as a property without sound management or appropriate technical acumen is not likely to be a productive asset, whatever its quality on some objective basis.

We identify three core qualities of management necessary to run a successful mine; 1) management needs to have the ***technological and business know how*** about how to develop an exploration project, and a track record of taking projects through the various stages described above, and, possibly as important, when to cut losses on a given prospect, 2) management or shareholders need the ***financial skills*** to successfully raise capital, 3) ***management needs to be marketers*** to some degree, and have the ability to convey a strong, compelling story to the market, which, of course, is an essential ingredient for raising capital, particularly in the early stages.

### i) Major gold companies as strategic shareholders

One of the first things to check for a junior gold miner is whether the company has large precious metals miners as shareholders. The presence of a major company as a shareholder indicates a few things;

***1) Due Diligence is implied:*** It is likely that that a major company has done considerable due diligence on a company and its project, as it has the resources to do so. Moreover, its investment is likely to be based on the quality of the junior miner's projects, and not a market play based on speculation and promotion, which reduces the risk.

***2) Shareholders will scrutinize projects:*** If the strategic shareholder is listed on the stock market, as is usually the case, it will be beholden to shareholders to create sufficient returns, and acquisitions by the company viewed as overly risky are likely to be punished by share price declines. This gives the company an incentive to only invest in promising projects, and stock analysts provide effectively a third round of due diligence on a given project externally, after the junior miner and strategic shareholder have already done this internally.

***3) Shareholders can supply technical guidance and capital:*** As a junior miner expands, they can face high funding requirements or technical hurdles in continuing drilling programs and mine development, which a large strategic shareholder may be able to provide guidance and capital to overcome. Also, the presence of a strategic shareholder can make it easier for the junior miner to raise capital from other outside sources. This is not to say that large companies have perfect foresight, but their presence does, in our view, tend to reduce risk somewhat. The presence of a large strategic shareholder will be typical of larger cap juniors, as they have likely already proven their projects through a long series of steps, as outlined in the first section.

## ii) Management's experience and track record

Having checked for major strategic shareholders, we need to take a look at the core management team. With most juniors, there are typically three key senior managers, or groups of managers; 1) the ***CEO,*** who will be responsible for the overall vision of the company, 2) the ***key technical leader, usually a skilled geologist*** who can guide the CEO on where and how to explore, and 3) ***the CFO or financial manager,*** who will be key in raising the capital the company will need to sustain its operations.

There will also be a ***Board of Directors,*** who oversee management (at least in theory, if not always in practice) on behalf of shareholders, and there may be an ***Advisory Committee*** that can provide additional expertise and connections to management, if and when needed. All of the company's senior managers and directors may play a role in communicating the company's story and progress to the market, mainly through stock analysts and the media. The company may also have a dedicated Investor Relations Manager and hire outside consultants to assist with the marketing and PR.

***1) Past projects completed successfully:*** The biography of management including previous companies and projects they have been involved with is generally available on a company's website, and an internet search will usually show the results of many of these projects. If the company's management have a track record of past successes, including projects brought to production or acquired by larger companies, that is a good sign.

***2) No record of overpromoted failures:*** Of course, few managers are going to exhibit a perfect track record for their projects, given the inherent risks in the exploration business. However, we do want to search out any particularly major failures that made headlines, especially when there is evidence of considerable over promotion of a project and no delivery. If there have been such issues linked to members of top management, this suggests that ***a given manager may have either an unrealistic vision extending beyond their reach, or that they engage in ethically dubious over-promotion.*** More risk-taking investors can still invest in the projects of such managers and make gains, but they may want to sell out after major ramp ups, given the increasing chance for a collapse. More cautious investors will probably want to avoid companies lead by management with a flawed track record.

***3) Current projects are similar to past projects:*** It is possible to have good management with a good track record that is expanding into a project or country well beyond the scope of its core capabilities. An example would be a company previously operating in a developed country with a strong legal system and administration supportive of the mining industry. Such a company could face challenges developing a project in a country with a less stringent legal system, where they have less understanding of the political dynamics and more limited industry and political contacts. It may still be a good project for a company more familiar with the country, but for a management team with no experience there, it introduces substantial risk.

The other issue would be a company shifting from one precious metal where is has considerable experience to another where it has less experience, or it undertaking a new technological method with which it is not entirely familiar. There are other various scenarios we could consider here, but suffice it to say: ***we should consider whether or not the company is moving considerably away from its demonstrated core capabilities,*** and how far away, and whether or not the risk still justifies the investment.

# 2) Property Geology, History and District

## The greenfield versus the historically producing project

Having considered the management team, we move on the second core factor, ***the property*** that this management team is developing. At the two ends of the spectrum are; 1) ***a completely greenfield property*** about which little is known, at least publicly and 2) ***a property which has seen considerable historical production,*** and may have existing (although possibly dated) infrastructure, which might be reused.

In this report we assume that the reader may be an experienced investor but does not necessarily have any technical background in geology and mining. However, we believe that even without delving into geology, there are still several things that the average investor can investigate on their own: ***i) the historical detail of the property, ii) the proximity of other large producers or explorers, iii) the mining district*** and its regulations and processes, and political risks, and ***iv) the existing infrastructure and seasonality,*** or the very practical day to day issues of mining, and we address the issue of ***v) multiple properties at different stages.*** Then we look at where the property is the development process; ***i) a completely greenfield site, ii) in the exploration phase, iii) in the development phase, or iv) in production.***

## i) Having a look at the historical detail

Fortunately, most companies usually provide good historical detail on their property, often in their corporate presentation, which is easily accessed on most junior gold miners' websites. This will often show whether the project is a greenfield site, or one with historical production. For sites with historical production, the nature and amount of production is often outlined, and an internet search can often turn up more detail on the history of a given mine.

## ii) The proximity of other larger explorers or producers

Another sign to look for is the proximity of other large explorers or producers in the area, which will often be highlighted in maps in the company's corporate presentation. We note that the presence of a major producer, even directly adjacent to the junior miner's property, is not necessarily a strong indication that the junior miner's property will result in a successful gold find.

However, the company's geological team many believe that a property is worth exploring and that it may have the potential to host a deposit if the same kinds of geological structures hosting a nearby deposit occur on the junior miner's property (or run from the adjacent property to the junior miner's property). Plus, we know that many of the top mining jurisdictions in the world host large so-called 'mining camps', where the geology in the area produces a number of deposits.

On top of this, if a major player has an operation nearby, this may reduce the costs of production (should a discovery be made), via already established infrastructure, thereby increasing a project's economic viability. A strong gold find by a junior miner contiguous with a large player's property could also make it easier for that operator to justify an acquisition from the junior miner.

## iii) The mining district; politics and regulation

Another issue that an investor can consider is the country and district where the mining company is operating. A key source of publicly available information for is the Fraser Institute annual survey, which ranks global mining districts on their overall investment attractiveness and other criteria. In our view, ***this survey provides useful guidance as to the overall macro risk faced by the company in one jurisdiction versus another.***

There are many risk issues for certain districts, including political shocks in less stable regions, which can lead to changes of mining laws, cancellations of existing contracts, and expropriation. In highly developed countries, the issues for junior gold miners may not be the lack of stability, but instead rigidity in regulations, with some districts enforcing particularly strict environmental regulations and preventing certain types of mining methods.

## iv) Existing infrastructure and seasonality

Another issue to consider is existing infrastructure near the gold miner, as we have outlined above. ***The mining process requires good transportation electricity, and milling infrastructure;*** 1) miners need to be able to transport metal to both a mill for processing and to the eventual final consumer by road, rail and ship, 2) electricity is one of the major costs components of mining exploration, and 3) existing milling infrastructure can reduce the cost and start-up time for an eventual producer considerably.

***Also potentially inhibiting the ease of production is seasonality.*** Many mines are in remote areas with extreme seasonality, in northern climates with extremely cold winters, leaving only the summer season available for exploration, or in tropical climates where strong rainfall in rainy seasons makes the dry season the only feasible period for exploration. Another issue for very remote mining locations can be labor scarcity, making it necessary to transport a sizeable number of workers to the mine at a high cost.

## v) Multiple properties at various stage in different districts

All of the above discusses a single project, but obviously many junior gold miners are exploring multiple properties, in different countries and districts, and with different metals. Usually however, these types of juniors are usually concentrating capital and time more on a smaller handful of projects, with less time and capital put immediately into their more peripheral early-stage projects. In fact, with many juniors, it will become quickly apparent that their overriding focus (both in terms of time and capital) is one particular project, and the 'project portfolio' is really about giving prospective investors the impression that they are not hanging their hats on a single project.

In our view there is no issue with this, per se, so long as the quality of the project justifies the investment. At the same time, a junior miner that is spread too thinly across multiple projects, without much apparent focus on any of them, might be a company that is better to avoid (with the notable exception of a special business model that is a "revenue aggregator", which is not a pure junior miner but instead pools the revenue streams of various miners). In the 'Drivers' section below, we will see ***that following press releases is key to tracking these companies over time,*** and a quick look at the press releases will turn up the names of a couple of projects more than others; these are the projects usually currently in focus by the company.

## How far along was the project historically?

It is important to consider how much the property has been explored before the junior miner being assessed came on the scene. Properties may fall into one of the following categories:

***i) A greenfield project:*** The earliest stage situation is ***a greenfield site*** that never been explored at all, and discovered because broad-based geological studies of the area suggest that it might be an area to consider exploring.

***ii) Some historical exploration:*** The second would be ***a situation where there has been some surveying, and limited historical drilling,*** and the junior miner is starting its exploration with at least some data about the property, though there has not been extensive drilling at the site. This is perhaps the most common scenario, especially in mature mining jurisdictions.

***iii) Extensive historical drilling:*** There has already been extensive drilling at the site, but for one reason or another, the companies that carried out that exploration no longer own the property. These companies may have decided its drill results did not justify continued exploration based on its particular theory for the project. The project may not have gone ahead because of a downward cycle in the price of gold, or perhaps the company was unable to secure further financing and sold it. Also, the junior miner that now owns the property may have also acquired an advanced stage project at a substantial cost, or through some kind of joint venture or partnership agreement, perhaps consolidating it with another nearby project they already own. While there are many possible explanations, ***in this scenario the junior miner has a great deal of information to start with,*** and its geological team should have a well-considered plan for how to develop the property going forward.

***iv) Historical production:*** There was previously a historic mine at the site. In this scenario, there could be a variety of reasons why the junior miner has acquired the site and believes it has the potential for future development. The historic operator may have been using outdated methods of mining. The price of gold at the time it was operational may not have justified further production, but currently does. Or, using modern modelling, the geological team believes that much of the gold deposit had not been identified by the previous owner and is still in the ground, ready to be discovered.

## How far along is the project currently?

We should also consider how far along the project is currently, after examining the historical context above. Is the company operating at a greenfield site, with little information, and just beginning the surveying process? Has it made it to extensive drilling, completed a PEA and is continuing definition drilling, or has it completed its feasibility study and is gearing up to actually build the mine and start producing? All these phases have very different drivers and financial requirements from each other stage, as we outline below.

# 3) Financing at Different Phases in the Cycle

## i) Very limited capital ("Two geologists and a shovel")

In the earliest stages, the financials of a junior miner can be particularly precarious. Firms will not be able to do much without about CAD$100,000 or so to get started, just enough to cover the market cost of one or two professionals doing some initial investigation of a property. This could be provided by the founders themselves, possibly from a previously successful project, family and friends, private investors or a family office either well-known to the founders, or with a particularly high risk-tolerance. ***At this point financing is similar to angel investing in the tech space, or wildcatters in oil exploration.*** This is the very earliest possible stage to get in.

The property in this case could range from greenfield to past producing, but in general would still be very questionable as to its prospects. ***The cash window here would be at most two years, and it would be difficult to get any debt or equity financing from the capital markets.*** Larger companies may be involved in such an early-stage project, but there will be a difference; they will be backed by a wider base of experts and staff and far more capital, and may have access to a database of geological information not available to the wildcatters. Overall, ***we can see a range of situations from 'two geologists and a shovel' to a larger, well-funded firm at this stage,*** and while the latter may have superior resources, the former may investigate properties that eventually prove interesting, but that larger firms have passed over.

## ii) Later early-stage exploration, capital following results

At this stage, a company has already invested significant time and capital in the initial exploration stage. ***The company will have started to make press releases of its initial findings including geological information and modelling of the find.*** If these announcements are strong, this may draw in capital, and could even see the entrance of a strategic shareholder if the management team is relatively well known with a strong track record. The company may also engage in some basic (and relatively inexpensive) surface drilling. In order to secure the capital necessary to proceed to the next step, which will entail a full drill program, the company needs to report particularly promising results in this surveying stage.

## iii) Intensive drilling program, substantial funding needed

Once the company has given investors ***enough geological proof that the property is worthy of a much more extensive, and costly, drilling program, it is a tipping point.*** This is where more significant capital can be obtained for the first time, and company will need to provide continued strong drilling results to continue to flow of capital. To the downside, this increased visibility and expenditure brings with it increasing expectations from the market (and key stakeholders), and the potential for disappointment.

## iv) Initial mineral resource estimate

***The biggest turning point for a junior miner is probably the announcement of the initial mineral resource.*** At this point, the company is moving from searching for the resource to defining the resource identified thus far in clear terms. Now, we are talking about a deposit, a discovery (how significant that deposit is, and whether or not it is economically attractive to mine, are separate matters). This estimated resource is provided by an independent party, based on the drilling results, and it is described in three categories, which vary by level of certainty: ***1) Measured*** (the most stringent of the three, where a "competent person", a geologist, has confirmed the estimate with a high grade of confidence, ***2) Indicated*** (less stringent, but enough economic mineral occurrences have been sampled to make an estimate) or ***3) Inferred*** Resources (the least stringent, where the mineral content can be estimated with a low level of confidence).

Obviously the Measured and Indicated Resource (M&I) is considered of higher potential economic value, and likely to attract more capital and interest from potential strategic shareholders, and the Inferred Resource less. We note that M&I resources are still not at the highest standard of confidence; ***further along in the process, the estimate shifts from Resource to Reserves, both Proved (the most stringent) and Probable (less stringent).*** However, even this maiden resource stage can lead to a strong rising interest in the company.

## v) PEA: The first outline of revenue and cost

Once the basic resource has been outlined the process moves to the Preliminary Economic Assessment (PEA) stage. While the resource estimate is a critical step because it outlines the size of the deposit, ***the PEA is very different, because it estimates what an actual operating mine could produce from this property, and importantly how much it could cost.*** For providers of capital, this will be the first clear estimate of the project's value and allow for comparisons with competing projects. ***This is also a point of a high probability for the entrance of a strategic shareholder,*** which can now provide its shareholders concrete information about the value of the project.

## vi) Feasibility Study and raising serious long-term capital

After the PEA, the company will continue surveying and drilling programs to further delineate the deposit and expand the resource. The next step is the Feasibility Study. This process is a major capital expense and can take months or years to complete. It culminates in a lengthy document giving extensive detail on a potential mine. At this stage, ***the company has a proven discovery and is serious about moving into production.*** Or, to put it another way, 'the Dream' has given way to a clear plan to make the mine 'a Reality'.

Although there are still risks, the work of the junior miner in the development cycle could be considered complete, and the company is becoming a different sort of entity, an intermediate miner or junior producer. At this point, we see many junior miners, particularly those whose management do not have experience building and operating mines, looking to sell off its producing mine, allowing the company and its managers to return to their core competencies of exploration and development.

## vii) Mine development and production; over to big capital

Nonetheless, some juniors do enter production, and it is important to recognize that it is not necessarily clear sailing past the feasibility stage to production. The reality is that building a mine is a complicated endeavour. The plan based on the Feasibility Study may change or may turn out to be more expensive than estimated. Alternatively, technical issues can arise, or the gold price could fall, rendering production unviable (or at least less profitable than expected). These are ***issues that experienced producers are used to dealing with but not areas that the managers of junior miners tend to have much experience with;*** instead, management may soon find itself out of its depth. In this situation, assuming the company does not sell the project to a more experienced producer, we may see a new management team, better suited to the production phase, come into the picture.

So both to the upside, where a great project is acquired and everything goes smoothly into development and the junior mining management returns to their core competencies, and to the downside, where junior mining management extends beyond their capabilities into mine production, but do not do well, we may see the entrance of a different management team better suited to this phase. The final step in this phase, closing a mine and ensuring limited environmental effects in this process, is another area where junior mining management may not have a great deal of experience and could potentially be better handled by the management of producing miners with extensive experience in retiring mines.

## Junior mining capital tends to be equity

The capital supplied to junior miners tends to be equity capital, as opposed to debt in the form of bonds or bank loans, which many other large companies use as financing sources regularly. The ***main difference between debt and equity is risk tolerance and expected reward.*** Equity providers take on considerable risk; to the upside, they get a percentage in the company's profits, so if the company's profits soar, their income or share will also tend to rise. However, if a company's net income is zero, equity holders get no cash flow from the company, and if a company is insolvent, equity holders get paid last. Debt holders, in contrast, get paid their interest payments even if net income is low, and if the company goes bankrupt, they get paid back first from any capital that remains.

Given that junior miners usually lack any revenue or regular cash flow, lenders find it too risky to provide debt financing. Most materially there is simply no operating profit from which to pay the creditor's interest payments, and with many junior miners only having enough cash to fund operations for a year, there is also the risk that the creditor's principal will disappear. Therefore, junior miners rely on equity financing who bet that the junior has a big find, or that its interim drilling results and story will be sufficiently good to drive up the share price, providing a significant return regardless of the end game.

These ***equity financings often take the form of a private placement.*** In this case, the shares are not sold to the average investor in the open market, but rather privately and often to large strategic holders. Private placements (sometimes referred to as "PPs") can take more than one form. With a standard private placement, the company's investment bankers prepare a prospectus and then market the offering to select investors. Or, with so-called "bought deal" private placements, underwriters purchase the securities before a prospectus is filed, and take on the risk of there being sufficient demand for the shares at the purchase price.

As an incentive to participate in private placements, companies may offer warrants (similar to stock options) to prospective investors. It may be a half or full warrant for each common share issued. In Canada, one may also encounter special flow-through shares in some private placements, which offer tax privileges designed to encourage mining industry investment.

## Has the company been highly dilutive in the past?

Given the ongoing need to raise equity capital, another factor to consider is dilution, and how that could affect the value of an investment. Dilution can be a concern for investors for two reasons; control and value. Control is an issue for larger shareholders that want majority stakes that allow them to control the management and direction of the company. That is not our concern here, and as individual investors, we are more interested in value, and whether adding more capital through new shares issuance will dilute the value of the shares held, or increase it.

## Dilution as a good development

Consider a company that has a $10m market cap, with 10m shares outstanding at $1 per share. If it raises $10m in capital by issuing 10m new shares, the original shareholders would see their percentage shareholding diluted by half. However, in theory, this should have no impact on value. The $10m firm now has an additional $10m in cash, and is worth twice as much. The shareholder who previously owned 1% of a $10mn company (100,000 shares) at $1/share, or a $100,000 value, now owns 0.5% of a company worth $20mn, also a $100,000 value. ***The shareholder's relative stake in the firm has decreased, but the overall value of the firm has gone up commensurately.*** Moreover, for a junior miner, having the capital in place for a major exploration program can add significant value to the firm. The announcement of such financing can be a major share price driver, assuming the market believes management's development plan is appropriate. In this sense, a dilution event is often a good thing for shareholders.

## Dilution as a cause for concern

At the same time, it is important to recognize how and when dilution can harm the value of an investment, and we highlight four types that investors should consider with caution; ***i) offerings at a discounted priced, ii) capital raised at low absolute share prices, iii) capital raised being used for administration more than exploration,*** and ***iv) the risk of a rollback.*** While these do not cover all the negative aspects of dilution, they provide a good starting point, and it is less about only one of these issues arising infrequently, and more about a repeated pattern of them, or several at a single company.

***i) Offerings at a discounted price:*** Unlike the theoretical example above where new shares are sold at the current trading price, with private offerings, ***new shares are typically offered at a discount, to make the investment more attractive to help companies obtain capital.*** In most jurisdictions, the permitted discount is limited, and there may be special rules for significant participation by insiders, including heightened disclosure requirements. Still, even with such rules, the issuance of new shares at a discounted price has the potential to reduce the value of existing shareholders' equity. The key issue is whether the value to the firm of having the additional capital more than offsets the cost to the firm (and its existing shareholders) of issuing new shares at a discounted price.

***ii) Capital raised at low absolute share prices:*** Dilution can be a concern when capital is raised at relative low points in a company's share price history, especially where the financing is large or there is a pattern of such activity. Many junior miners are 'penny stocks' and this low absolute size can become a problem, as shares moving even by a cent change by large percentages. If a share trading at 2 cents moves down to 1 cent or up to 3 cents in a day, this is a 50% decline, or 33% gain, respectively, a huge move in other sectors, but common for juniors. If the company does a placement at the lower level, it would mean considerable dilution for those not participating, and be particularly worrisome if there is significant insider participation.

***iii) Capital being raised for admin, not exploration:*** Dilution may be a concern where capital is being raised primarily to cover administration costs, and not for property acquisition or exploration. While administration is critical for the business and having talented managers and technical staff costs money, it alone does not create value for a junior miner, and the resulting dilution can erode the value of existing shareholders' stakes in the firm.

***iv) The risk of a rollback:*** Finally, dilution could, if it persists over time, make raising capital more difficult and even create the risk of a rollback, or a reverse stock split. If a junior mining company has a large number of shares outstanding, if its share price is low, and if it is struggling to raise capital, management may consider a rollback. This may be of greatest concern where a company's existing management team is underperforming, and a change in management seems likely. In this case, the new management team may determine that, as part of a restructuring, a rollback is necessary to stave off dissolution or removal from an exchange, and to put the company back in a position to be able to raise capital for its exploration activities.

In theory, a rollback doesn't have any direct impact on value. If a company trading at 5 cents does a 1-for-5 rollback, shareholders will have one fifth the number of shares at 5 times the price per share, or 25 cents. ***In practice, rollbacks often come after prolonged periods of decline or underperformance.*** They tend not to be viewed favourably by the market and signal that a company is in serious distress. Afterwards, the share price may decline to some interim level, with the company (and by extension its shareholders) having lost substantial value (even if the rollback might be in the long-term interests of the company).

## Considering the pattern and motivation of capital raising

The key takeaway is to examine a junior gold mining company's share structure and its pattern of raising capital. Investors will want to examine; 1) if the equity financing is primarily used by the company for funding property acquisitions and exploration activities, 2) how volatile the share price is, and if current management shows a pattern of doing private offerings at its historic lows, and if so, are these small or large offerings, exceptions to the norm, and is there significant insider participation in such offerings, 3) how many shares the company has outstanding compared to similar companies, and 4) how stable the management team has been.

Lastly, ***the presence of one or more large strategic investors as shareholders can help to mitigate some of the concerns*** identified here. Such investors may provide discipline for management. After all, compared to the average investor, large strategic investors tend to have far more resources to scrutinize the performance of management and to take action if they determine that management is not acting in the best interests of shareholders. (Having said that, if a large strategic investor is itself a participant in a given private offering, then its interests may not be aligned with the interests of shareholders who are not participating.)

## Quarterly and annual financial reports

Often the first step in analyzing stocks in other industries is to immediately go the company's quarterly and annual financial reports, and start from there. We have actually left these for last in the case of the junior miners, and instead focused on press releases first. This is because ***other industries will usually have both revenue and expenses shown in considerable detail,*** which give a very clear picture of the profitability and the success of the company. For junior miners, it is quite different; they don't usually have any revenue, and their relative level of expenses does not necessarily correlate to success in the process. It is really about tracking the press releases to see how their resources are developing and how far along in the process from 'the Dream' to 'the Reality' they are getting.

# 4) Tracking the Main Drivers

In this section, we move to the ongoing monitoring of the progress of a junior gold miner, for which ***the main activity is tracking press releases, financial reports and videos.*** Investors should regularly check the company website's news, reports or media sections, where all important developments will be covered. Reports filed with the stock exchange by a company can also be tracked. In this section we summarize which press releases tend to go along with each stage, which helps locate the company within the development cycle. As a side note, be wary of any company that has no website and only sparse communication, with big gaps between its press releases.

## i) Management and strategic shareholder related drivers

Management related press releases can take the form of announcements of the appointment and departure of senior executives or board members. Such news is most common around a company's annual general shareholders' meeting, but can come out at any time of the year. Press releases related to strategic shareholders can include the purchase or increase of a stake in a junior miner, or acquisition of the entire project by a larger company.

## ii) Property related drivers

***1) Acquisition and surveying:*** Early property related press releases can include the acquisition of new properties, the expansion of properties, and initial geological and surveying results.

***2) The permitting process:*** The company may need permitting at various stages of the cycle, and press releases may be made on the application for, progress on, and approval of, the permitting. Investors should pay particular attention to these for companies operating in strict regulatory jurisdictions, where the failure to achieve environmental permits or agreements with local communities can slow down or derail the development process.

***3) Specific drilling results:*** Once drilling commences, ***press releases with specific drilling results will start to be released.*** The best results of recent drilling will usually be in the headline, for example, "10 g/t Au over 2.0 m", meaning a sample had a concentration "10 grams of gold per tonne over a 2.0 m width", and the full details of all the recent holes drilled will be included.

***4) Mineral resource estimates, PEAs and Feasibility studies:*** This category of property-related news tends to entail concrete data. The first will usually be ***the Initial Mineral Resource estimate,*** which outlines for the first time the amount of Measured, Indicated and Inferred Resources at the site. While these numbers may be frequently updated, it can be years between this Initial Mineral Resource estimate and subsequent releases in this category. ***The next step tends to be news about the Preliminary Economic Assessment (PEA),*** an independent third-party assessment of potential production including revenue, costs, and mine life. Lastly, ***there will be releases regarding a Feasibility Study,*** an even lengthier document about mining the deposit.

***5) Production releases:*** Once the company begins production, there will be releases about things like the amount of ore mined in tonnes, grade in grams/tonne, and the ounces of gold produced by the mine.

***6) News about the jurisdiction in which the project is located:*** The company may release news about things that impact its ability to explore and operate, such as major legal or political developments. Such news can occur at any phase of the cycle and is of greater interest when a project is located in a riskier, less stable, less developed, mining jurisdiction.

## iii) Financial related drivers

This broad category of news can have a notable impact on a company's share price, particularly as the raising of capital is so critical to a junior minor's success. Press releases regarding ***private placements*** (PP) typically include news about either; 1) the initial announcement of the deal; 2) changes in the deal, or 3) the closing of the PP. Other financial-related press releases can include news about ***the issuance and exercise of stock options*** by officers, directors, and other large shareholders, as well as the release of the company's quarterly and annual financial statements. For larger juniors with advanced stage projects nearing production, there can be news about ***debt financing facilities*** and the repayment of debt.

# 5) Some Factors in Valuing a Junior Miner

## Comparing the fundamental factors to the valuation

Any decision about whether to purchase stock of a junior gold miner (or any public company for that matter) will come down to its share price, and whether one believes it to be over or undervalued by the market, and where one expects its share price to go in the future. This section offers suggestions for how to approach the valuation of a given junior gold miner versus comparable companies, in the context of the all the issues we have outlined above.

## Considering a good company versus a good stock

Even a junior gold miner with a weak property portfolio could be attractive if the price of its shares is low enough. At a very low price, ***the market is likely to have extremely low expectations for the company and the performance of management, so even modest news can move the price up.*** In short, it may not be a great company; it may even be a bad company (within the universe of gold mining stocks), but it may still be a good stock. By contrast, a high profile, well-managed junior miner that has had a long series of impressive drill results and a PEA establishing a significant gold discovery may have seen its share price and market capitalization increase dramatically. However, ***even though it may be an excellent company, the potential upside in terms of the share price may not justify the downside risk,*** which is to say that it may be overpriced.

Moreover, for many investors that are looking to buy junior gold mining stocks, their rationale for investing in these kinds of stocks is in the hopes of finding companies that have the potential to deliver massive returns if successful. In the context of their broader investment portfolio and asset allocation strategy, such investment in junior miners represents the speculative, high risk, high reward part of their portfolio. The type of excellent company just described may no longer offer the potential for such returns and may not fit the investment profile that they are looking for from a junior mining investment (though it may still be a good buy, depending upon an investor's particular goals).

## Methods for valuing junior gold miners

Valuation of junior miners is quite different to the valuation of stocks in the many other sectors. Usually we forecast revenues, costs, interest costs, and taxes, and use these to ***estimate the future cash flows of a project.*** We then divide these by a factor that accounts for interest rates and inflation over time, called ***a discount factor,*** and then add these cash flows up, to arrive at the company's value. But for junior miners in the early stages of exploration we have no estimates of revenue or costs, because we really have no idea of what the potential resources will be, or how difficult they will be to get out of the ground. There are simply no concrete numbers to help root the valuation. In this way, picking early-stage junior miners is more like picking early-stage startups.

***Once we reach the mineral resource estimate stage, valuation becomes easier,*** as we can at least take the resource multiplied by the gold price to ascertain a value, and we can see how much the market is paying in market capitalization per ounce of estimated resources across different companies. Then ***at the PEA and Feasibility Study stages, valuation becomes even easier,*** because the company provides an independent valuation of its most advanced stage project. These studies include the net present value (NPV) of the company's projects, which is the sum of the discounted cash flows, with revenues, costs, and profits. We can take this NPV and compare it to the company's market cap and NPVs of other companies' comparable projects to help get a sense of relative under or overvaluation.

Nonetheless, even when we cannot get an absolute value for juniors based on cash flows, we can consider relative value, by comparing the market caps of similar projects with similar levels of expenses or similarly sized drilling programs. This gives us an idea of how much the market is paying for different companies to engage in ongoing exploration, in advance of any clear results. Below we outline some methods we can use to value junior gold miners, from the more concrete PEA stage to earlier stages.

***i) Market value versus PEA for project:*** If the company has released a PEA for a project, the NPV of that project can be compared to the market cap of the company as a whole, to see the premium or discount at which the company trades relative to the project's NPV. This can be a useful metric, although various issues may explain this difference, including; 1) metal prices and discount rates that could have changed substantially since the PEA was issued, and 2) if the company has more than one exploration project with promising results, even if these have not all reached the PEA stage, the market may be assigning considerable value to them (and the company may trade at a considerable premium to the NPV of the project for which the company has released a PEA).

***ii) Comparing a pool of similar juniors using other metrics:*** Investors can analyze a pool of similarly sized companies (in terms of market cap and the nature and stage of their projects) on the basis of metrics such as; ***1) estimated resources, 2) capital spent on exploration activities, and 3) the size of ongoing exploration programs.***

***1) Estimated resources:*** As companies release Measured, Indicated, and Inferred Resource estimates for their projects, if the company has not yet reached the PEA and Feasibility Study stages, investors should consider not only the estimated deposit size in each category of certainty, but the grade (including secondary metals), and the likely cost to extract the resource. A project in a well-established mining camp, with good infrastructure, in a stable country, with high-grade a deposit, will be far more valuable than a lower grade deposit of similar size in a more remote location.

***2) Capital spent on exploration activities:*** The capital spent on exploration activities by companies on their current projects over some comparable period of time, over the past year or more.

***3) Size of ongoing exploration programs:*** The size (based on cost) of planned or ongoing exploration programs for which financing is already secured and allocated can be compared across companies.

# A Starting Point for Understanding Junior Gold

## An introduction to the junior gold mining sector

In this report we have provided an introduction to junior gold mining for general investors knowledgeable about other sectors, or even producing gold miners, but new to this sector, or wanting to understand it in more detail. We have outlined the mining development cycle phases, the critical role that the gold price cycle plays, how the management, property, financing and valuation all need to be appropriate for each phase, and the balancing act that junior gold miners must undertake all the way along their move from 'the Dream' of a new property to 'the Reality' of a producing mine.

## Junior gold mining space unique versus other sectors

For someone new to investing in junior gold miners, this guide helps explain the many issues that are unique to the sector, and demystify why stocks in the sector can be particularly volatile. Most other industries, including producing miners, have clearly reported revenues and costs, which make estimating a valuation within a reasonable range a more transparent process. In contrast, for much of the mining development cycle, there is limited clarity on what a junior gold mining project could be worth, and whether it can make it from 'the Dream' to 'the Reality'. Of course, these high-risk levels are also what can make can a junior mining investment so potentially lucrative.

## Watch the sector first and learn

We would encourage investors to first watch the sector for some time before diving in and investing, using this guide, to help better understand the risk and reward of a given junior gold miner. In addition to tracking individual miners, investors can follow the industry through websites like juniorstockreview.com, miningstockeducation.com, cruxinvestor.com, provenandprobable.com, and ceo.ca. While we have not covered junior gold mining geology issues in detail in this report, as this is usually beyond the scope of the general investor, the juniors provide substantial information on this in their releases, and many texts are available for investors who want to dig even deeper. Overall, we would guide all of our readers to balance exuberance with caution in investing in the sector, just as the junior gold miners do in their path from 'the Dream' to 'the Reality'.

*The Canadian Mining Report*

# Analyzing Junior Gold Mining Stocks