Chesapeake Gold Corp. (TSXV: CKG) – Developing One of the Largest Gold Mines in the World

COULOIR CAPITAL

Investment Highlights

- **Chesapeake Gold Corp. (TSXV: CKG)** ("CKG", or "Company") is a precious metals mine developer and explorer with a focus on the Americas. The company's flagship asset, the Metates Gold Project, is recognized as one of the world's largest gold-silver resources.

- **Flagship Project Boasts Strong Economics:** Metates has a projected post-tax NPV@5 of US$685 million, reflecting a post-tax IRR of 24.6% (41.2% if levered) and a 31-year mine life. However, these impressive economics are only for the 15,000 tpd Phase I "starter" project using only 20% of the project's resource, with optionality for an expansion to a 30,000 tpd plant and incorporating the other 80% of identified resources.

- **Technology Edge to Boost Future Operations:** One of the more challenging aspects of Metates is its refractory sulphide ore body, which is difficult to recover economically with traditional cyanidation. The company has acquired significant in-house IP which it believes could enable CAPEX-lite heap leaching.

- **Strong Management Track Record:** CKG's CEO built SSR Mining Inc. into a multi-national miner, expanding production 400% over four years. He also managed one of the world's largest copper sulphide heap leaching operations. In addition, the company's founder-president oversaw the US$8.6 billion acquisition of Glamis Gold Ltd. by Goldcorp in 2006.

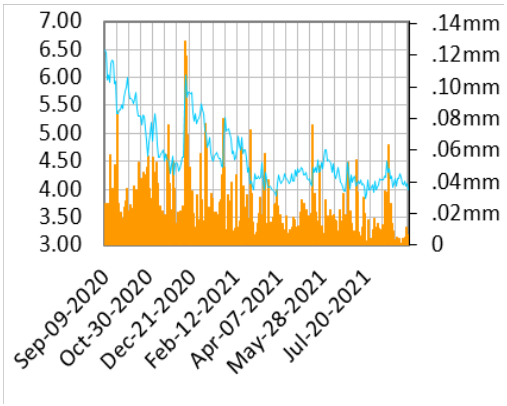
- **Based on our analysis and valuation models, we are initiating coverage with a BUY rating and a fair value per share estimate of $10.17 per share.**

Current Price (C$):	$	3.85
Fair Value (C$):	$	10.17
Projected Upside:		164.05%
Action Rating:		BUY
Perceived Risk:		HIGH

Shares Outstanding:		67,367,000
Market Capitalization (C$):	$	259,362,950
P/E		-
P/B		1.57
YoY Return		34.77%
YoY TSXV Return		21.79%

*Note all $ amount are C$ unless otherwise stated

TSXV: CKG Price and Volume History



Key Financial Data (FYE - Dec 31) (C$)		2020		Q2-2021
Cash	$	34,247,800	$	33,200,300
Working Capital	$	34,552,000	$	33,929,400
Mineral Assets	$	89,585,900	$	91,219,900
Total Assets	$	128,325,100	$	173,611,200
Net Income (Loss) for the 6M	$	(203,500)	$	(3,382,800)
EPS for the 6M	$	(0.00)	$	(0.05)

September 13th, 2021

CKG is a mine developer focused on precious metals properties in the Americas. CKG features an elite management that includes mine builders that have developed mineral assets and brought about value accretive take outs in previous ventures. With its current portfolio, CKG offers investors a similar value proposition, with formidable assets in its holdings that have the potential to be developed into major mines in their own right. The CKG mineral asset portfolio consists of the following key projects:

- **The Metates Gold Project:** Metates is one of the largest gold-silver deposits in the world, with management having developed the asset since 2007. The company has filed multiple Technical Reports on the mine and are looking to develop it into Mexico's next major precious metals production center.
- **The Talapoosa Gold Project:** Located in Nevada, Talapoosa is a disseminated gold-silver project featuring a gold-equivalent resource in excess of a million ounces. A PEA was completed on the project in 2015, and CKG own a 74.5% ownership interest in Talapoosa through an equivalent position in the shares of Gunpoint Exploration Ltd. (TSXV: GUN).

Though Talapoosa and CKG's other key satellite projects have substantial upside potential, we see Metates as the main driver of value for the company. Off the back of a positive PEA result for the company's planned sulphide heap leaching operation at Metates, we believe that the company is facing a considerable forward pipeline of major development catalysts.

The Metates Gold Project

Located in the Sierra Madre mountain range in north-western Mexico, Metates is located in the state of Durango. It is approximately 160 km northwest of the city of Durango, and 175 km north of the coastal resort city of Mazatlan. The property comprises 12 mineral concessions that together total 14,727 hectares.

Metates Gold Project Regional Positioning

Source: Company

CKG came into control of Metates (and the Talapoosa Project in Nevada) when it acquired American Gold Capital Corp. in February 2007. Whilst CKG has undertaken extensive exploration operations throughout its ownership, the property has been explored since the 17th century. However, there is little evidence of historical production, which can be attributed to the deposit's remoteness, the lack of high-grade veins, and the refractory nature of the ore body. The exploration history of the project is summarized in the timeline below.

Metates Project Exploration Timeline

Date	Entity	Work Program	Significant Results
Pre–1978	Spanish colonists and artisanal miners	Small-scale mining in district	None recorded
1978	Roberto Erraguin	25 tpd mill to treat mineralized material from vein structures in sediments	None recorded
1980–1983	Minas Frisco/BP	28 diamond drillholes	Both sedimentary and intrusive mineralization were intersected
1987–1992	Luismin	4 diamond drillholes	Tonnage calculated on Main Zone (intrusive)
1993–1997	Cambior/Luismin JV	Intensive drilling/ Preliminary Feasibility Study	Large tonnage/low grade deposit outlined
1998–1999	Cambior/Luismin JV	Property idle	
2000–2002	Ownership changes	Property idle	
2003–2004	Wheaton/Glamis JV	Resumption of work contemplated, but none performed	None recorded, but NI 43-101 report published by WGM
2004–2007	American Gold	Property acquired by American Gold, but no work undertaken on-site	None recorded
2007–2008	Chesapeake	Engineering studies and 37 core drillholes	NI 43-101 Report
2009–2010	Chesapeake	Metallurgical and engineering studies	NI 43-101 Preliminary Economic Assessment
2011	Chesapeake	Continued metallurgical and engineering studies; extensive drilling	NI 43-101 Updated Preliminary Economic Assessment
2012-2013	Chesapeake	Metallurgical and engineering studies	NI43-101 Preliminary Feasibility Study
2014-2016	Chesapeake	Limited drilling, extensive engineering and infrastructure studies	Updated NI 43-101 Preliminary Feasibility Study
2017-2019	Chesapeake	Limited scale metallurgical testing	
2020-2021	Chesapeake	Metallurgical testing of new oxidation technology, limited drilling program	NI 43-101 Preliminary Economic Assessment

Source: Company

In the context of more recent project history, the key exploration regimes of note include CKG's own tenure, previous operator Cambior Inc.'s activities as part of a JV with a major Mexican precious metals producer, and drilling done before Cambior's tenure. As records for drilling campaigns prior to Cambior's tenure have not been well maintained, most of the Technical Report studies done on Metates have been reliant on drilling done between Cambior and CKG. The table below covers drilling meterage from the period through to 2016.

Metates Project Exploration Timeline

Company	Year	No. of Holes	Meters
Cambior	1993	14	4,827
	1994	92	33,499
	1995	34	10,499
	Subtotal	**140**	**48,825**
Chesapeake	2007–2008	36	14,379
	2011	53	23,486
	2013	5	2,018
	2021	5	2,333
	Subtotal	**99**	**42,216**
Total		**234**	**91,041**

Source: Company

The Metates Deposit is one of the largest disseminated gold-silver deposits in the world. The deposit is hosted by Mesozoic sedimentary rocks that have been intruded by a quartz latite body up to 300 meters thick and 1,500 meters long. The precious metals mineralization occurs as sulphide veinlets and disseminations in both the intrusive and sedimentary host rocks. The veinlets (typically between 1 and 5 mm) are typically composed of pyrite, sphalerite, arsenopyrite, and galena. The gold is largely refractory and most of the gold mineralisation is so fine-grained that it can be considered invisible. Because of how fine-grained the gold particles are in refractory ore bodies, these type of gold ores are naturally resistant to recovery by standard recovery processes like cyanidation. Therefore, refractory ores require pre-treatment or oxidation in order for cyanidation methods to work effectively. The refractory nature of the ore body at Metates is primarily due to the encapsulation of gold by the sulphide minerals, which are largely unaffected by cyanide leachate. Furthermore, because the sedimentary rock contains organic carbon, the Metates mineralization is also mildly preg-robbing, which means that when gold and silver are extracted by cyanide, the carbon binds with the precious metals and makes the recovery process challenging. Despite the challenges regarding the geological characteristics of the deposit's ore, key advantages include the orebody's outcrop to over 300 meters vertically and near-surface presence of the deposit's highest grades (allowing economic extraction near the beginning of mine life).

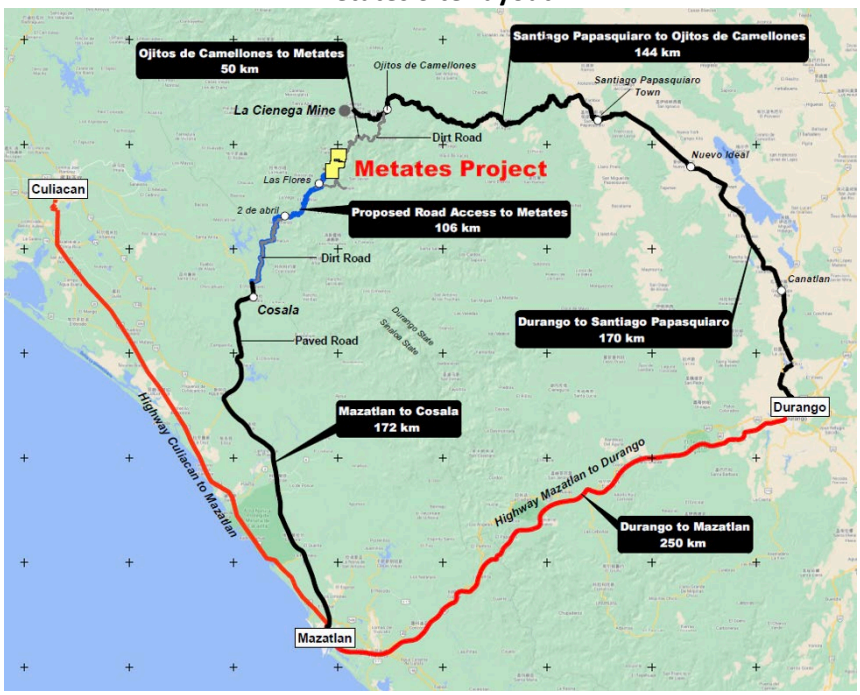
Metates Deposit

Source: Company

In terms of road accessibility and local infrastructure, the property can be accessed from Durango City via Federal Highway 23 for about 170 km to the town of Santiago Papasquiaro, before heading west on Federal Highway 36 for about 144 km to the village of Ojito de Camellones. From there, access to

the Metates site via approximately 50 km of unpaved dirt roads of variable quality, for total road distance of about 364 km. Given that the dirt road is primitive in nature, it may be blocked during rainy season, though heavy machinery like drill rigs can typically still be hauled through to the mine site. There are plans to upgrade the road prior to construction, according to management. There is currently no direct road access to the property from the west. Apart from road access, flight access (trip duration of approximately one hour) is also possible via the airports at Durango City, Mazatlan, or Culiacan, which support regular scheduled air service. In the vicinity of Metates, there are several dirt air strips (measuring between 200 and 500 meters) in nearby villages that can facilitate the landing of aircraft.

Metates Site Layout



Source: Company

In terms of local resources, there is a scattering of small villages within a 10 km radius of Metates, which all have populations of less than 1,000. One of the villages, Vascogil (population of less than 200 with about 30 dwellings), is in immediate proximity to the mining camp at Metates and would need to be relocated in the future if commercial operations were set up. Whilst there are villages in the vicinity of the project, economic activity locally is built on subsistence farming and cattle ranching, and there is little in the way of access to essential services such as accommodation or landline-based telecommunications. As a result, labour, equipment, and necessary services will need to be sourced from the major population centres such as Durango, Mazatlan or Culiacan. At Metates itself, there is a mining camp with capacity for 70 people, which was established back in the Cambior days and revamped by CKG for its own use.

Climate-wise, the property area is characterized by a variable climate environment that ranges from subtropical to temperate, which is attributable to Metates' location and elevation extremes. Temperatures in the project area range from sub-zero in the December-January winter season through to as high as 40°C in the summer season in May-June, and average annual precipitation is 1,025 mm. Two thirds of the rainfall typically occur during the monsoonal wet season, and more generally the dry season occurs in October-May whilst the wet season occurs during June-September. Metates is located within the Sierra Madre mountains, and as a result, features mountainous terrain with elevation ranging from 600-2,600 meters and steep slopes. The immediate deposit area features elevations from 800-1,200 meters.

Evolution of Metates' Development Plan & the Move to Sulphide Heap Leaching

Throughout its development history, we believe the largest development roadblock for the Metates Gold Project has been its prohibitively high CAPEX. As might be expected for one of the largest development gold assets globally, a substantial amount of capital is expected to be deployed in Metates' buildout. Because of the large CAPEX estimated for Metates, further advancing the development of the project has been a drawn out process - CKG first filed a PEA in 2010, and has been unable to progress Metates past the PFS stage since. We believe that the development challenges at Metates are tied to the difficulty of bankrolling high CAPEX projects, which are accentuated in the case of mine developers that lack sufficient equity to underpin large project financings. As a result, Metates' gross scale represents as much of a challenge as it does an opportunity.

To address the issue of high CAPEX, CKG has been continuously working on modifying operational parameters to bring down expected capital requirements. This has included downsizing the envisioned operations at Metates, trading throughput capacity for lower upfront project cost. In a 2013 PFS, CKG considered an open pit operation at 120,000 tpd throughput, using conventional truck and shovel mining methods and acid pressure oxidation ("POX") in an autoclave circuit to facilitate precious metals recovery. In 2016, an updated PFS saw process parameters maintained, but adjusted production parameters to reflect a two-phased operation with initial throughput of 30,000 tpd and the option to expand throughput to 90,000 tpd. The key impacts of the changes, apart from the decrease in planned throughput, include:

- A reduction in projected initial CAPEX from US$4.36 billion (2013 PFS) to US$1.91 billion for the Phase I operation (2016 updated PFS). Combined CAPEX for Metates in the 2016 PFS was projected at US$3.50 billion.
- A reduction in LOM sustaining CAPEX from US$571.58 million (2013 PFS) to US$122.97 million (2016 updated PFS).
- An increase in the after-tax payback period from 5.8 years (2013 PFS) to 10.1 years (2016 updated PFS).
- A decrease in the after-tax IRR from 13.4% (2013 PFS) to 7.7% (2016 updated PFS).

Most recently, CKG has again shaken up its development strategy and has filed a PEA for an even smaller operation, with projected throughput for a smaller "starter" plant with 15,000 tpd (and optionality to expand throughput to 30,000 tpd). In addition to the smaller production footprint, CKG has decided to alter its planned gold recovery processes, moving away from an autoclave recovery process to a sulphide heap leach mine. Heap leaching is a fairly simple extraction method that calls for mined ore to be placed on a linen pad, before applying chemical reagents and processing the resulting solution to recover economic metals.

In relation to autoclave processes, it is less CAPEX-intensive (owing to less equipment and processing requirements) and has been in use throughout history for extracting precious metals and base metals from mineral ores. However, heap leaching in gold mining has typically been performed for oxide deposits, with the process typically being less feasible for sulphide ore bodies. This is because in sulphide ores, the chemical reagents from the cyanidation process are either consumed or blocked by other substances in the ore or can absorb desired gold out of the mineralized solution in a phenomenon called "preg-robbing". Because of these potential outcomes of cyanidation in sulphide heap leaching, attempting to extract gold from sulphide material in this manner has previously led to low gold recoveries and therefore poor mine economics.

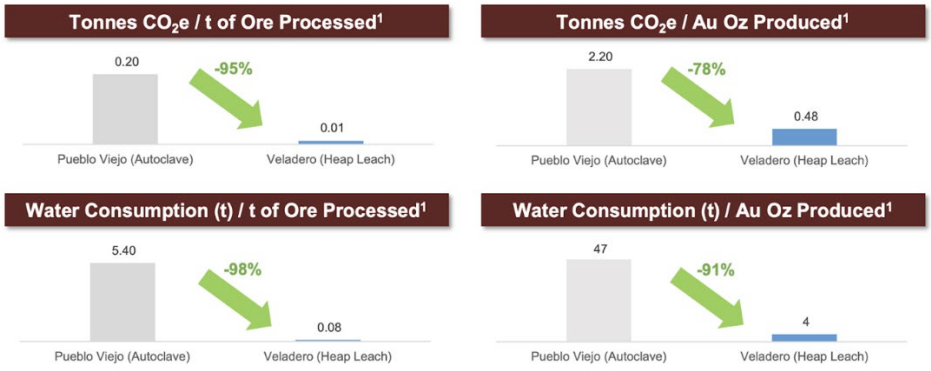
To get around this issue, which is a common feature for refractory sulphide ore bodies like Metates, sulphide ore can be oxidized in order to make it more amenable for gold recovery. Though there are four main methods used today, the two most common methods include:

- **POX:** Using an autoclave, sulphide ore in an aqueous slurry is mixed with oxygen at high pressure and temperature, which oxidizes the sulphide materials and releases trapped gold. Though resulting in high gold recoveries, the capital outlay for the autoclave infrastructure is substantial. An example of a mine using POX processing is the Pueblo Viejo Gold Mine in the Domincan Republic, operated through a Barrick Gold Corp. (TSX: ABX) JV with Newmont Corp. (NYSE: NEM).
- **Roasting:** Using a furnace (called a roaster), sulphides are heated to high temperatures in the presence of air, which converts the sulphide to an oxide and the sulphur into sulphur dioxide. Though a flexible and more cost-effective technology than POX, it results in lower recoveries and can be a high environmental impact processing method. At the Carlin Complex operated by ABX through the Nevada Gold Mines JV with NEM, the processing infrastructure includes autoclaves, leach pads, and roasters.

Though POX and roasting allow for high gold recoveries from sulphide ore, the required infrastructure and technical capability makes for complex, CAPEX-intensive operations. By comparison, heap leach operations exhibit lower CAPEX and OPEX intensity, quicker project execution, less operational complexity and more favourable payback period characteristics. Though heap leaching for refractory gold deposits has not been done historically, sulphide heap leaching has been done for decades in the copper mining industry, with key examples including the Spence Copper Cathode Mine in Chile. The Spence Copper Cathode Mine, which is a feeder mine to BHP Group Ltd.'s (ASX: BHP) Pampa Norte Complex, was the largest copper sulphide heap leaching operation globally at the time of its construction.

With there already being sulphide heap leaching precedents in the copper mining sector, CKG believes that similar methods could also be applied to gold-dominant sulphide ore bodies, which would significantly drop the CAPEX and OPEX burden. At Metates, removing the need for pre-treatment infrastructure like autoclaves to facilitate oxidation will have a major impact on the expected CAPEX, whilst also bringing down OPEX tied to chemical reagent consumption. However, another important factor of shifting to sulphide heap leaching is the greener nature of the extraction process compared to methods like POX, with both carbon and water emissions being lower under heap leaching. Tailings dams and other CAPEX-intensive tailings management infrastructure are also not needed, as barren solution from the recovery plant is recycled for use on the leach pad. Because of the lower water consumption and tailings disposal concerns, it is expected that permitting should also be a more streamlined affair for heap leaching operations relative to autoclave POX operations.

Heap Leaching Vs. Autoclave Processing: Carbon Emissions and Water Consumption (ABX)

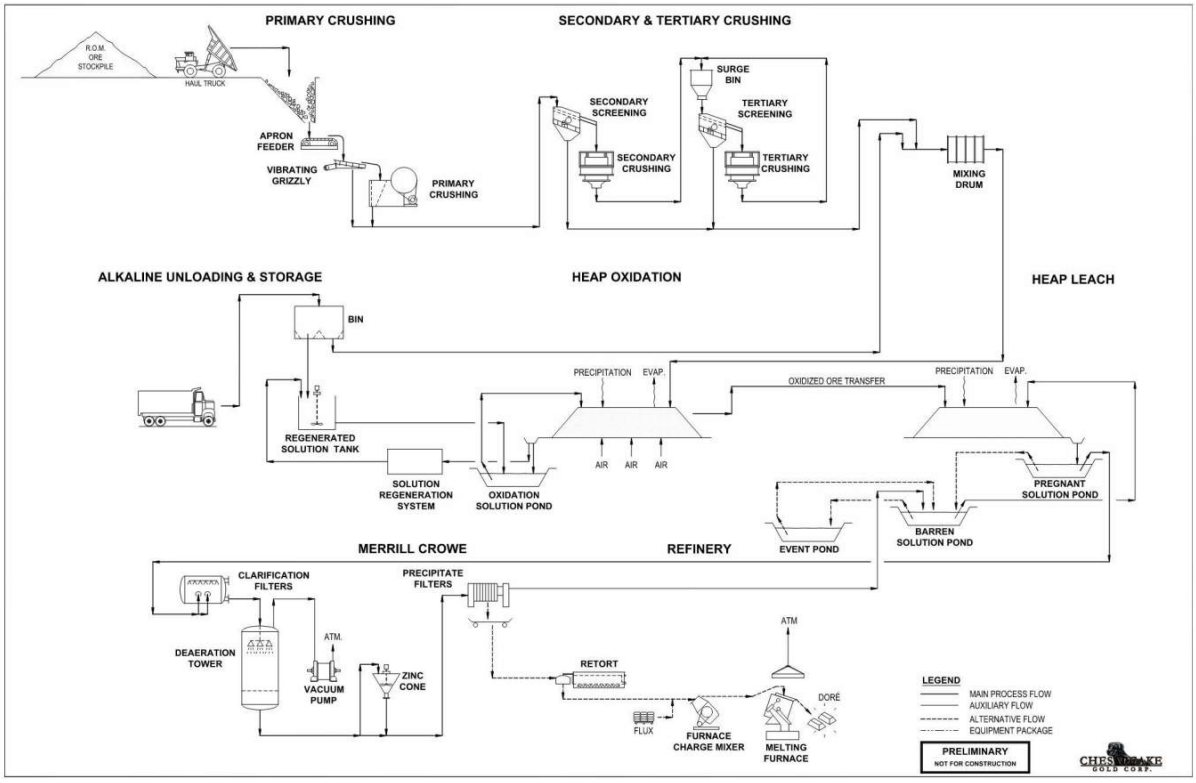


Source: Company, Barrick Gold Corp.'s 2019 Sustainability Report

The opportunistic shift to a sulphide heap leach operation represents CKG's move to apply newly acquired technological capabilities to address the persistent CAPEX issue at Metates. In January 2021, CKG announced the closing of the previously announced all-stock acquisition of Alderley Gold Corp.

("Alderley"), a private Canadian company with rights to an innovative sulphide leaching technology. The technology in question is under a licensing agreement that requires a 1% NSR on any future production utilizing the licensed IP. The Alderley technology allows a miner to oxidize sulphide ores using chemistry to manage pH levels and alkalinity. This in turn allows one to improve metal recovery profiles and reduce the likelihood of processed material becoming acidic during the cyanide leaching process. As a result, it is believed that the Alderley sulphide leaching technology will significantly improve gold and silver recoveries, and preliminary metallurgical testing at Metates has demonstrated that the deposit's ore can be oxidized feasibly, releasing precious metal content. Moving forward, CKG intends to undergo extensive ore body testing across Metates' key zones, with 18-24 months budgeted to determine target oxidation times and expected recovery rates. If successful, CKG can confidently move forward with a scalable sulphide help leaching operation, which significantly simplifies the extraction process compared to previously. The process flowsheet contains far less stages for a heap leach operation relative to an autoclave POX operation.

Flow Sheet of the Metates Sulphide Heap Leach Project



Source: Company

The technology element of the CKG playbook is a unique "sleeping giant" advantage for the company, which operates in an industry where technological innovation is often under looked relative to more salient parameters like underlying resources and mine throughput. Though a gold miner's ounces are a huge driver of asset value, the ability of a miner to efficiently extract those ounces in a manner that maximizes profitability and optimizes mine design can be the platform upon which a best-in-class miner is built. Whilst the former is largely driven by the mineral endowment of a particular tenement, the latter can be built upon proprietary advantages like technology. Pioneers of new mining methodologies (or in the case of CKG, adapting the existing methodology of heap leaching to a refractory ore body) can be the first-mover edge that allows a miner to build out world-class projects and establish a dominant cost position. As an example, ABX is a best-in-class miner with much of its current success attributable to its early implementation of its expertise in autoclave mining, allowing it to develop key assets like the Carlin Gold Complex and Pueblo Viejo.

With CKG, the inherent value of the technology inherited from Alderley comes from the potential to unlock Metates' scale with the disproportionately lower costs of heap leaching. However, we do note that CKG will essentially need to pioneer sulphide heap leaching for gold and being a first-mover in an industry comes with its challenges. However, we believe that the Alderley acquisition provides CKG with access to management individuals that have experience in execution, specifically with managing sulphide heap leaching projects of significant scale. In Alan Pangbourne, Alderley's CEO and now the CEO of CKG, the company has inherited a mine builder and developer that has a storied track record that includes managing the Spence Copper Cathode Mine for BHP. As we earlier discussed, the Spence Project is one of the world's largest copper sulphide heap leach operations, and CKG's newly inherited technology directly borrows from some of the key principles used in copper sulphide heap leaching. As a result, it is highly promising in the context of delivering one of the world's largest precious metals refractory ore projects that the company's core leadership includes proven experience in delivering sulphide heap leaching. Apart from managing the Spence Copper Cathode Mine, Alan Pangbourne's was also the former COO at SSR Mining Inc. (NASDAQ: SSRM), where he had a direct role in building the company into a multi-project, multi-national miner from a single mine platform. Production under his tenure built up 400% over four years, demonstrating ability to scale at speed.

Metates Phase I Mine Economics & Operational Characteristics

Under the assumptions of the Metates Phase I PEA, CKG plans to run Metates as a conventional open pit mine, consisting of drilling and medium diameter blasting (using ANFO and emulsions), and truck and shovel mining. Plant feed will be hauled to a primary crusher and waste rock will be transported to waste storage facilities onsite. The mine production schedule from the Metates Phase I PEA is based on 15,000 tpd throughput, which is supplied to the primary crusher. After the crushing process, plant feed is put on a pad for oxidation prior to being transferred to a permanent leach pad for cyanidation. The mine is scheduled to operate two 12-hour shifts per day for 365 days per year. At the projected throughput, Metates' Phase I operation is expected to have a 31-year mine life.

The Metates resource is segmented into intrusive-hosted and sedimentary-hosted rock. Only the intrusive-hosted mineralization has been considered as potential plant feed under the PEA assumptions. This is because the intrusive-hosted ore is higher-grade, and the metallurgical characteristics are better defined than the sedimentary-hosted ore. However, the sedimentary ore that is mined will be stockpiled for future consideration, and higher prices could be a key factor in the stockpiled ore becoming economic for mining. There will also be a low-grade stockpile facility to store marginal grade intrusive material for processing at the end of mine life.

One factor that should not be lost on investors is that the intrusive-hosted feedstock material considered under the Phase I base case is approximately 20% of identified resources. As a result, there is substantial optionality available to CKG, which could very well upgrade the sedimentary resources to production-grade feedstock should it advance sufficiently with metallurgical initiatives and further resource delineation. This is important as it provides CKG with "low hanging fruit" opportunities to improve mine economics (i.e., boosting projected NPV and earnings profile via scale benefits) without needing to focus specifically on expanding captive resources. The resource statement of Metates is shown below:

Metates Mineral Resource Statement

Resource Category	Mtonnes	Gold Eq. (g/t)	Gold (g/t)	Silver (g/t)	Gold (moz)	Silver (moz)
Measured Mineral Resource	395.4	0.79	0.59	15.5	7.44	197.3
Intrusive Host	103.1	0.98	0.76	16.5	2.52	54.6
Sediment Host	292.4	0.73	0.52	15.2	4.92	142.7
Indicated Mineral Resource	907.0	0.58	0.42	11.8	12.36	344.7

Intrusive Host	146.0	0.76	0.60	11.9	2.79	55.9
Sediment Host	761.1	0.55	0.39	11.8	9.57	288.7
Measured/Indicated Resource	1,302.4	0.65	0.47	12.9	19.80	542.0
Intrusive Host	249.0	0.85	0.66	13.8	5.32	110.6
Sediment Host	1,053.4	0.60	0.43	12.7	14.48	431.4
Inferred Mineral Resource	62.2	0.44	0.32	9.0	0.64	18.0
Intrusive Host	3.4	0.51	0.43	6.0	0.05	0.7
Sediment Host	58.8	0.44	0.32	9.2	0.60	17.3

Source: Company

To classify the Metates resource for production scheduling, different gold-equivalent cut-off grades were used to segment the ore body into categories. Key resource categories within the production schedule include:

- **Direct Plant Feed:** Ore cut-off ranges from a high of 0.90 g/t Au Eq. during year 2 to a low of 0.28 g/t Au Eq. during Years 18-24. The mine production schedule projects 5,475,000 tonnes per annum of direct feed between years 2-23.
- **Low Grade Ore:** The cut-off for low grade material ranges between 0.33 g/t Au Eq. and the operating cut-off grade for a given production year. This cut-off accounts for rehandling costs.
- **Sedimentary Ore:** This ore goes straight to the stockpile, and is tabulated at a cut-off of 0.30 g/t Au Eq.

With low grade material included into the resource, the projected average waste stripping ratio is 2.22x.

Metates Phase I Plant Production Schedule

PLANT PRODUCTION SCHEDULE:	(Units)	TOTAL	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
TOTAL PLANT FEED:																		
Gold Equivalent Cutoff	(g/t)		0.75	0.90	0.76	0.76	0.72	0.75	0.70	0.62	0.62	0.85	0.80	0.76	0.80	0.70	0.70	0.66
Ktonnes	(kt)	166,091	5,000	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,474	5,475
Gold Equivalent	(g/t)	0.966	1.231	1.257	1.210	1.218	1.032	1.089	1.307	1.321	0.926	1.103	1.205	1.247	1.265	1.146	1.079	1.017
Gold	(g/t)	0.756	0.356	0.680	0.852	0.983	0.812	0.886	1.126	1.177	0.745	0.925	1.034	1.078	1.109	1.009	0.957	0.913
Silver	(g/t)	15.71	65.38	43.08	26.78	17.50	16.41	15.16	13.47	10.74	13.61	13.35	12.70	12.60	11.65	10.24	9.09	7.75
Zinc	(%)	0.291	0.519	0.570	0.437	0.270	0.422	0.409	0.237	0.178	0.404	0.273	0.243	0.218	0.185	0.178	0.148	0.119
Copper	(%)	0.013	0.006	0.012	0.015	0.015	0.011	0.014	0.017	0.017	0.009	0.014	0.015	0.015	0.016	0.016	0.017	0.019
Sulphur	(%)	5.52	3.69	5.65	6.33	6.50	5.95	6.43	7.11	6.95	5.43	6.21	6.56	6.66	6.74	6.40	6.16	5.93
Contained Gold	(koz)	4,035.7	57.2	119.7	149.9	173.1	142.9	156.0	198.3	207.2	131.1	162.8	182.1	189.7	195.2	177.7	168.5	160.7
Payable Gold@ 70%	(koz)	2,825.0	40.0	83.8	104.9	121.2	100.0	109.2	138.8	145.1	91.7	114.0	127.5	132.8	136.6	124.4	117.9	112.5
Contained Silver	(koz)	83,888	10,511	7,584	4,714	3,080	2,888	2,669	2,371	1,891	2,395	2,350	2,235	2,218	2,050	1,802	1,600	1,364
Payable Silver@ 75%	(koz)	62,916	7,883	5,688	3,536	2,310	2,166	2,002	1,778	1,418	1,796	1,762	1,676	1,663	1,538	1,352	1,200	1,023

PLANT PRODUCTION SCHEDULE:	(Units)	TOTAL	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	Year 31
TOTAL PLANT FEED:																	
Gold Equivalent Cutoff	(g/t)		0.66	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Ktonnes	(kt)	166,091	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	2,317
Gold Equivalent	(g/t)	0.966	1.045	0.988	0.944	0.882	0.832	0.808	0.894	0.661	0.604	0.601	0.578	0.517	0.530	0.638	0.574
Gold	(g/t)	0.756	0.898	0.800	0.782	0.734	0.705	0.701	0.786	0.550	0.472	0.420	0.383	0.323	0.351	0.338	0.178
Silver	(g/t)	15.71	10.96	14.08	12.11	11.06	9.50	8.05	8.09	8.25	9.84	13.51	14.51	14.51	13.35	22.39	29.59
Zinc	(%)	0.291	0.147	0.168	0.165	0.159	0.126	0.108	0.113	0.191	0.378	0.474	0.459	0.518	0.460	0.441	0.336
Copper	(%)	0.013	0.017	0.014	0.014	0.016	0.016	0.017	0.017	0.013	0.010	0.007	0.007	0.007	0.008	0.007	0.004
Sulphur	(%)	5.52	5.87	5.60	5.60	5.49	5.45	5.39	5.42	4.66	4.59	4.34	4.12	3.78	3.94	3.79	2.58
Contained Gold	(koz)	4,035.7	158.1	140.8	137.6	129.2	124.0	123.3	138.3	96.8	83.0	73.9	67.5	56.8	61.8	59.5	13.2
Payable Gold@ 70%	(koz)	2,825.0	110.7	98.5	96.3	90.4	86.8	86.3	96.8	67.7	58.1	51.7	47.2	39.8	43.2	41.7	9.3
Contained Silver	(koz)	83,888	1,929	2,478	2,132	1,947	1,673	1,418	1,424	1,452	1,733	2,378	2,553	2,555	2,350	3,941	2,205
Payable Silver@ 75%	(koz)	62,916	1,447	1,858	1,599	1,460	1,255	1,063	1,068	1,089	1,300	1,784	1,915	1,916	1,763	2,955	1,653

Source: Company

Regarding major equipment requirements for Metates, the PEA mine equipment estimate is based on contract mining with optimal mine management and a skilled labor pool. Equipment is assumed to be new at production start. The equipment needs are based on the following duties:

- Developing roads from the mine to the primary crusher, low-grade stockpile, sediment resource stockpile, and waste storage areas.
- Mining and hauling leach feed to the primary crusher or low-grade stockpile.
- Mining and hauling sedimentary ore to the sedimentary rock stockpile.
- Mining and hauling waste to the appropriate waste storage areas.
- Maintaining haul roads and various storage areas.

A 29-truck fleet will be sufficient for most years under the assumed production schedule, but there is an expected peak of 32-41 trucks needed in years 15 through 17. The PEA assumes that the truck fleet consists of contracted mining trucks, and that the peak year fleet additions will be under short-term leases. The fleet needs for Metates are shown below:

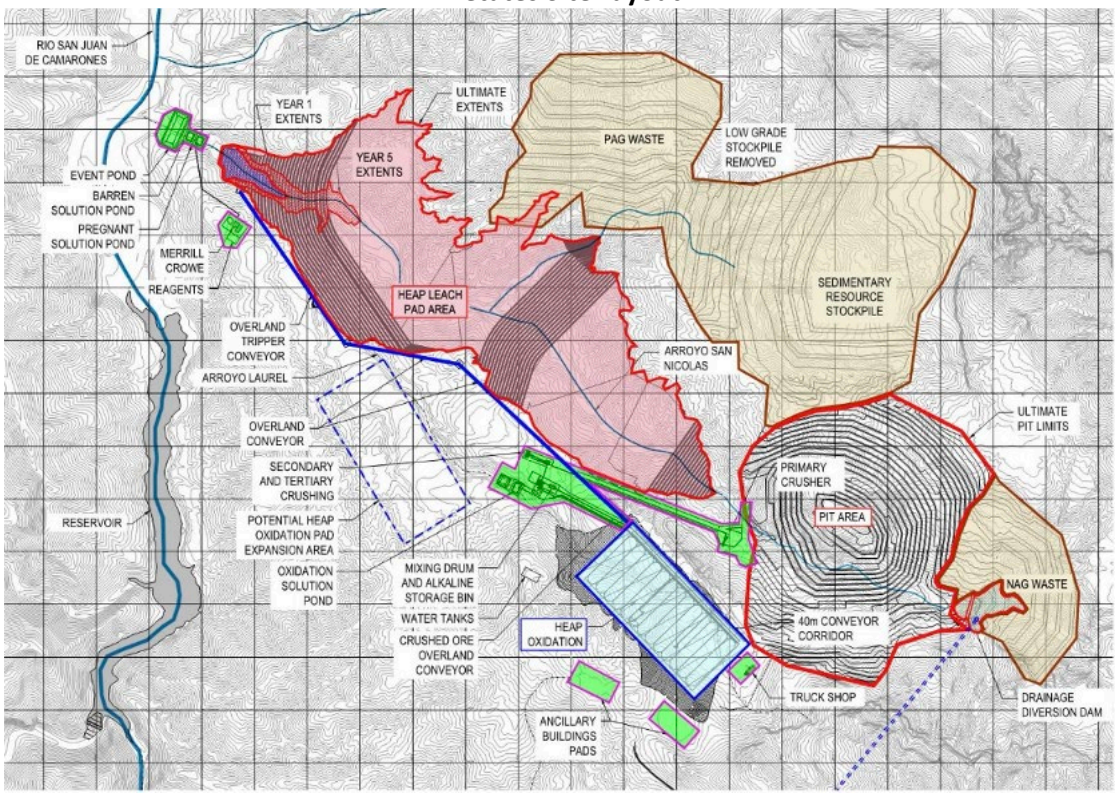
Projected Mining Equipment Fleet for Metates

Equipment Type	Capacity/Power	PP	Year 1	Peak
Caterpillar MD6250 Drill	(203 mm)	1	2	3
Caterpillar 6030FS Hyd Shovel	(16.5 m3)	0	1	3
Caterpillar 992K Wheel Loader	(11.5 m3)	1	1	1
Caterpillar 777G Truck	(91 t)	4	10	29
Caterpillar D10T2 Track Dozer	(447 kW)	1	2	3
Caterpillar D9T Track Dozer	(325 kW)	1	2	3
Caterpillar 834K Wheel Dozer	(370 kW)	1	1	2
Caterpillar 16M3 Motor Grader	(216 kW)	1	2	2
Water Truck - 18,000 gal	(68,100 l)	1	2	2
Caterpillar 345FL Excavator	(3.2 m3)	1	1	1
Sandvik DI560 DTH Drill	(127 mm)	2	2	2
TOTAL		14	26	51

Source: Company

The general arrangement and basic operational components for the Metates site including the open pit, oxidation heap, heap leach pad, process facilities and waste dumps are shown below.

Metates Site Layout



Source: Company

A key infrastructure element to facilitate mining at Metates will be adequate access to fresh water sources. According to management, the Metates process plant is projected to require 74 cubic meters per hour of raw water makeup to sustain the operation. In addition, an estimated 20 cubic meters per

hour of raw water for mine dust control and 1.25 cubic meters per hour for potable water are allocated, for a total consumption of 95 cubic meters per hour. The key constraints facing the company and its access to water include:

- Comision Nacional del Agua ("CONAGUA") regulates the operation of the local dam and reservoir which is within the same drainage basin as Metates. CONAGUA has confirmed with CKG that once the proper water rights are secured, it will allow water access from key water sources in the drainage basin. Recently, CONAGUA updated the official water balance for the San Lorenzo Basin and indicated there was an average positive availability of 50 million cubic meters per year.
- Whilst there is currently surface water capacity, an application must be made to CONAGUA for water rights. It is also possible to acquire water rights by purchasing them from a concession with existing water rights within the same drainage basin. The irrigation district is the only party selling water rights in the local market.
- Based on discussions with CONAGUA, the one-time cost is estimated to be within the range of US$0.50-1 per cubic meter. The PEA assumed a cost of US$1.00 per cubic meter.
- Water rights acquisition is a difficult process to predict, but the PEA has discussed timelines of between a couple months and up to a year.

Based on existing water access constraints, the PEA discussed the following strategies to secure access to water:

- **Purchasing Surface Water Rights:** As mentioned, the PEA assumes US$1 per cubic meter for water rights. Regarding brownfield water rights in relative proximity to Metates, the irrigation district extending south of Culiacan through to 20-25 km inland from the coast has 825 million cubic meters per year in existing water rights. 16% is held by private owners and the rest by municipalities.
- **Groundwater Exploration:** Groundwater sources could be developed closer to Metates, and the fee structure for groundwater is the same as that for surface water usage. Use of groundwater from open pit dewatering at Metates is also possible under local mining laws.

On the power front, a newly constructed 115 kV power line tying into the national power grid is expected to be built near the existing Cienaga II substation. It will extend approximately 20 km southwest of the Metates mine site, requiring a switching substation at the existing power line and a substation at the project itself.

Given infrastructure needs and facility requirements for the Phase I operation at Metates, the expected CAPEX has been pegged at US$359.2 million. This is an approximately 90% reduction in CAPEX relative to the combined CAPEX estimated under the 2016 PFS. The CAPEX was estimated based on contracting out mining operations at Metates, which includes the costs of mobilization, demobilization, and mine development. Direct process plant CAPEX has been estimated at US$221.8 million, which also includes power infrastructure. On closure costs, CAPEX for reclamation has been estimated at US$133.5 million, to be incurred at the end of mine life in year 31. The overall CAPEX estimated for Metates has been broken down into key buckets in the table below.

Metates CAPEX Breakdown in USD

	Cost
Metates Site	
Mining Equipment & Mine Development	$18,713
Crushing & Conveying	$36,104
Ponds & Pads	$28,404

Reagent/Regeneration System	$11,677
Merrill-Crowe & Refinery	$9,124
Subtotal	**$104,022**
Infrastructure	
General Site/Earthworks/Access Roads	$106,069
Electric Power	$7,851
Water Supply	$7,380
Ancillaries & Buildings	$11,121
Subtotal	**$132,421**
Freight, Taxes & Duties	$4,060
Total Direct Field Cost	$240,503
Indirects-EPCM, Commissioning & Spares	$32,047
Total On Site Constructed Cost	$272,550
Contingency	$63,459
First Fills	$6,000
Owner's Cost	$17,200
Total Capital Cost	**$359,209**

Source: Company

On the OPEX side, the projections for operating cost structure suggest that CKG will be looking at a cash cost of US$696 per gold-equivalent ounce, after taking into account by-product credits. With sustaining capital factored in, the projected AISC for Metates is US$758 per gold-equivalent ounce. In the PEA, operating costs and contractor pricing for key services were not estimated off of vendor quotes, so there could be significant inaccuracies relative to actual operating costs. The operating cost breakdown is provided in the table below.

Metates OPEX Breakdown in USD

Mineralized Material Tonnes (Processed kt)	166,091	
Total Tonnes – Moved (kt)	533,998	
	LOM Average	
Metates Facilities	**Annual Cost (US$000)**	**US$/mineralized material tonne**
Mining	$40,239	$7.51
Heaps and Merrill-Crowe Operations	$43,141	$8.05
Site Support	$7,531	$1.41
Incremental Employee Profit Sharing	$6,994	$1.32
Total Operating Cost	**$97,905**	**$18.29**
Doré Treatment Charges	$924	$0.17
Royalties	$7,786	$1.45
By-Product Credit (Silver)	($44,203)	($8.25)
Total Cash Cost	**$62,413**	**$11.66**
Sustaining Capital, Reclamation & Closure	$5,691	$1.06
AISC	**$68,104**	**$12.72**

Source: Company

Given the key parameters around expected production scheduling, mine CAPEX and operating cost structure, the Phase I Metates operation is expected to generate a before-tax NPV@5% of US$1.13 billion. This base case NPV calculation assumes LOM average gold and silver pricing of US$1,600 per oz Au and US$22 per oz Ag respectively and reflects an IRR of 35.4%. Payback period is estimated at approximately 2.5 years. On an after-tax basis, the NPV@5% is US$685 million, reflecting an IRR of 24.1% and payback period of 3.7 years.

Metates Economic Analysis in USD

Metal Price Assumptions	Low Case	Base Case	High (Spot)
Gold Price (US$ per troy ounce)	$1,360	$1,600	$1,786
Silver Price (US$ per troy ounce)	$19	$22	$26
USD:CDN Exchange Rate			1:1.25
USD:MEX Exchange Rate			1:20.05
Unlevered Pre-Tax Economic Indicators			
NPV at 5% Million C$	$896	$1,427	$1,906
NPV at 5% Million US$	$717	$1,142	$1,525
IRR %	25.3	**35.4**	45.2
Payback, years	3.4	**2.5**	2.0
Unlevered After-Tax Economic Indicators			
NPV at 5% Million C$	$513	$857	$1,167
NPV at 5% Million US$	$410	**$685**	$933
IRR %	17.9	**24.6**	30.9
Payback, years	5.2	**3.7**	2.9
Leveraged After-Tax Economic Indicators			
NPV at 5% Million C$	$509	$852	$1,162
NPV at 5% Million US$	$407	$682	$930
IRR %	26.9	**41.2**	55.9
Payback, years	3.4	2.2	1.6

Source: Company

However, an important caveat to note is that the return metrics outlined above assume the company opts for 100% equity financing of the project, a highly unlikely prospect given the scale of capital required relative to the company's current balance sheet and market valuation. To this end, the PEA also took into consideration a leveraged case in which the base case parameters are identical, but CKG opts for 60% debt financing at a cost of debt of 7% (amongst other features). Based on the structure of the debt assumed in the leveraged case, the levered post-tax IRR is projected at 41.2%, with a payback period of 2.2 years on the initial CAPEX. As demonstrated, access to debt financing at reasonable rates can significantly juice returns to the company, which makes overall project economics even more attractive. Because the company's project is of such large scale, we believe that access to project financing through traditional routes (i.e., syndicated bank debt or more specialized mine financing) is likely, though financiers will likely need proof that the company's intent to run the mine as a heap leach is possible at commercial scale.

Key Recent Events and Upcoming Catalysts

Off the back of the PEA for the Metates Phase I sulphide heap leaching operation, key development initiatives targeted by CKG include:

- Resource definition and expansion activities centered around further drilling campaigns.
- Optimizing mine design and operational parameters for the Phase I operation, including further testing the ore body at Metates for feasibility in use in a sulphide heap leaching operation.
- Progressing permitting initiatives and building key stakeholder relationships the streamline the mine development process.
- Working towards the next Technical Report milestone. Based on disclosures from CKG, management are targeting a new PFS on Metates for 2022.

Regarding recent drilling, the company recently disclosed results from a drilling campaign that took place in Q2-2021. CKG announced in March that it had received final permitting for a planned program targeting 2,500 meters of drilling to recover ten tonnes of drill core for metallurgical testing, which

would be targeted at establishing Metates' feasibility for heap leaching. In addition, the drill holes were also intended to target the intrusive-hosted ore body at Metates, with the goal of confirming its higher-grade nature and suitability for commercial extraction under heap leaching parameters.

The drill program was completed in May 2021, with CKG drilling a total of five holes covering 2,333 meters at 100-meter intervals across the strike of the main intrusive at Metates. The drill campaign used a 0.35 g/t Au Eq. cut-off, which was surpassed by 87% of all assay returns. **Significantly, the assay results returned gold-equivalent grades that averaged over 18% higher than those suggested by the company's own internal resource model.** This suggests that the company's current understanding of the deposit at Metates, as expressed via its existing resource statement, could in fact be understating the scale of the deposit's mineralization. The company's existing resource statement from Metates is based on a block model developed back in 2014, and which doesn't include more recent drill assays. We expect the better-than-expected results to factor into an updated resource statement as part of the company's future PFS, which provides significant valuation leverage to the company as an expansion of extractable ounces can improve the economics of future mine plans. Key assay results from the program have been highlighted below.

Metates 2021 Drill Program Assay Highlights

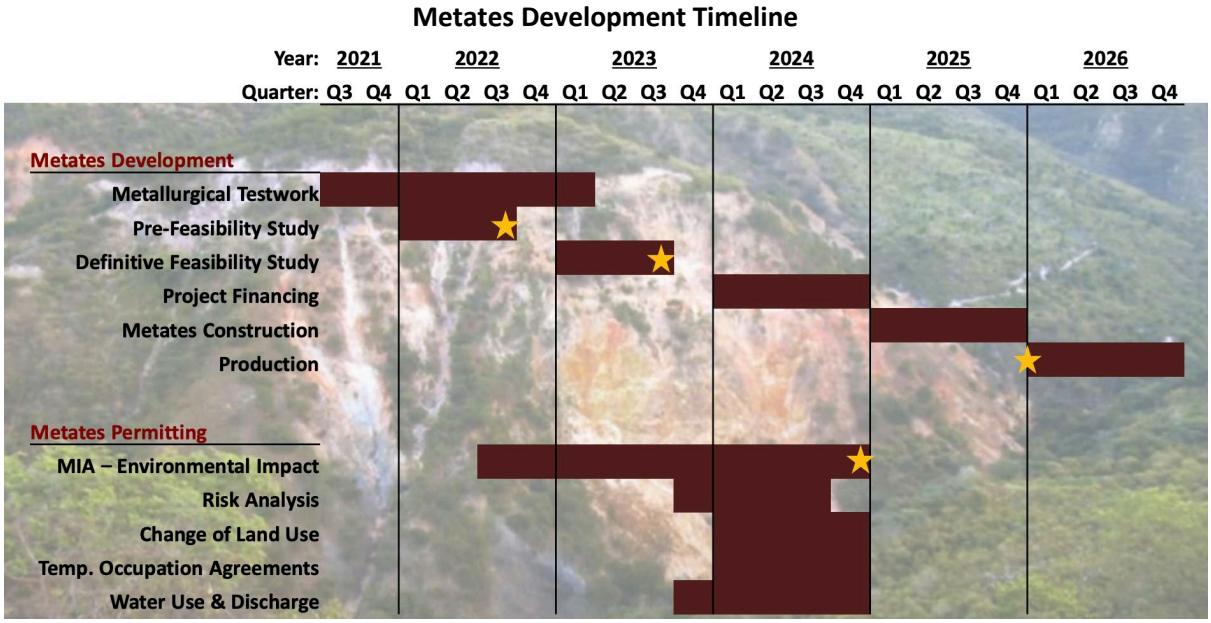
Hole ID	From (m)	To (m)	True Width (m)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)	Gold Eq Grade Au+(Ag/75)	Silver Eq Grade Ag+(Au x 75)
CKG21-086	15	447	432	1.15	48.9	1.80	135.3
Incl.	*30*	*39*	*9*	*1.21*	*417.0*	*6.77*	*507.9*
Incl.	*213*	*282*	*69*	*2.49*	*21.6*	*2.78*	*208.7*
Incl.	*390*	*447*	*57*	*2.13*	*9.4*	*2.25*	*169.9*
CKG21-085	63	345	282	1.13	29.4	1.53	114.4
Incl.	*129*	*279*	*150*	*1.34*	*31.6*	*1.76*	*131.9*
CKG21-087	225	378	153	1.50	9.8	1.63	122.1
Incl.	*327*	*348*	*21*	*2.78*	*14.3*	*2.97*	*222.5*
And	411	471	60	1.39	6.7	1.48	111.0
CKG21-084	156	291	135	1.06	17.1	1.29	96.6
And	351	441	90	0.86	11.2	1.01	75.5
CKG21-083	72	171	99	0.56	32.9	1.00	75.1
Incl.	*135*	*150*	*15*	*1.55*	*73.1*	*2.52*	*189.3*
And	336	411	75	0.60	15.8	0.81	60.8
Incl.	*345*	*363*	*18*	*1.07*	*29.8*	*1.47*	*110.4*

Source: Company

The drill program sets the company up to initiate the 18–24-month column testing process at Metates, with the higher-grade nature of the intrusive-hosted ore body clearer after the strong results. With metallurgical considerations a key focus for optimizing development plans, CKG has carved out a medium-term development plan that targets a commercial production date inside calendar 2026. In the run up to commercial production, CKG will look to achieve several key development milestones in the interim, including:

- A follow-up PFS on the Metates Phase I Project, with the expectations around timeline pointing to a date within calendar 2022.
- A DFS to follow in 2023, which will trigger a shift in focus from resource development and project planning to project financing and mine construction.
- The company will need to secure key permits to allow development of Metates and has projected a period of approximately two and a half years to secure necessary permits.

However, management has suggested that the timeline has significant leeway built in, and the permitting required could potentially be secured in a shorter period.



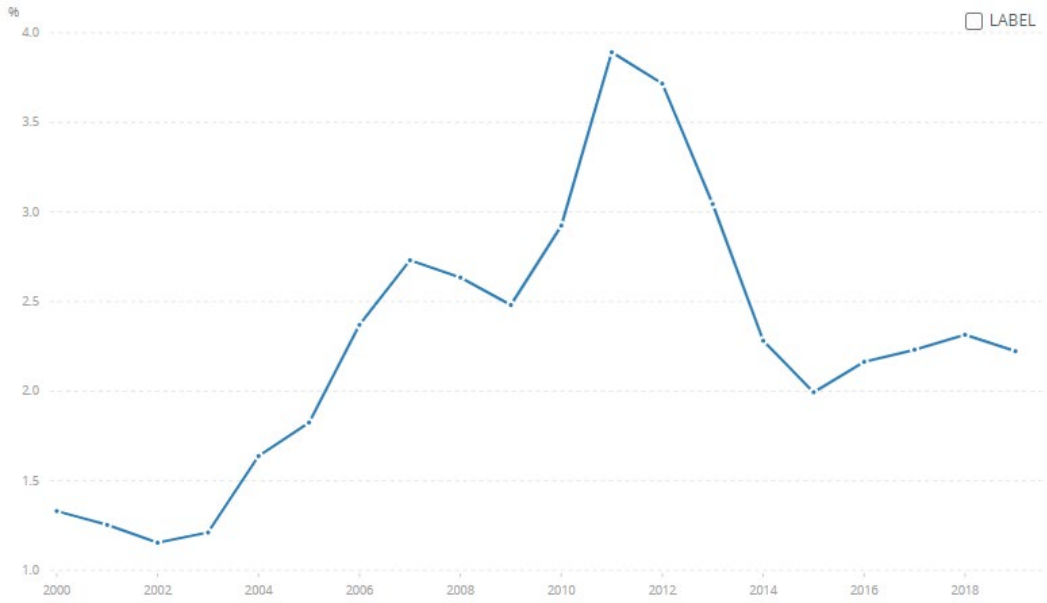
Source: Company

Whilst the development plan is well defined and paints a clear path to production, we believe CKG may also see Metates attract suitors, especially given the presence of major precious metal miners in the vicinity. Whilst CKG has downsized the projected initial operation at Metates, there is significant optionality given the word-class scale of the deposit, which majors with deeper pockets could find attractive in a world of dwindling large-scale precious metals mines. The geological characteristics of the mine, despite the difficulties around its refractory sulphide ore body, point to a generous cash flow profile given the near-surface nature of the gold resource and front-ending of potential revenue. These are attractive features that we believe could incentivize another party to pull out the chequebook for Metates. In addition, we believe the value proposition is set to grow as Metates gets further de-risked with each planned development milestone. However, even if Metates isn't bought out by a bigger player with sufficient dry powder, CKG's track record across its management and proven ability to raise capital in the markets should support the development of the company into a major mid-tier miner.

Industry Outlook

With a population of 128.93 million, a 2019 GDP of $1.08 trillion and a 2020 GDP per capita of US$8,346, Mexico ranks around the middle of the pack globally for GDP per capita, according to the World Bank. In 2019, Mexico had merchandise exports of $460.71 billion, with 2.22% of these exports being ores and metals, according to the World Bank. The graph below outlines the contribution of mining products to merchandise exports and imports between 2000 and 2019 (note that the Y axis is measured in percentage terms):

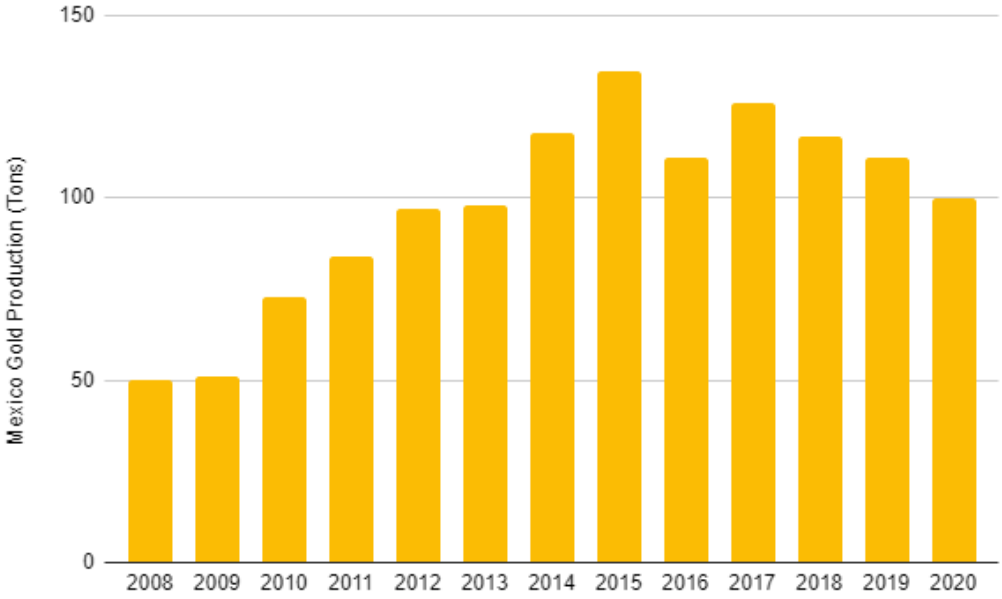
Ores and Metals as a % of Mexican Merchandise Exports



Source: World Bank

Despite not being a globally top-ranked (top four) gold producer, Mexico does produce significant amounts of gold and consistently ranks in the top ten. Mexico's historical gold production in metric tons is presented in the charts below. Based on the U.S. Geological Survey ("USGS") data underpinning our charts, Mexican gold production has grown at a CAGR of 5.95% between 2008 and 2020. This growth exceeds that of larger producing countries, and we believe that the high growth reflects the increasing foreign mining investment that has poured into Mexico over time.

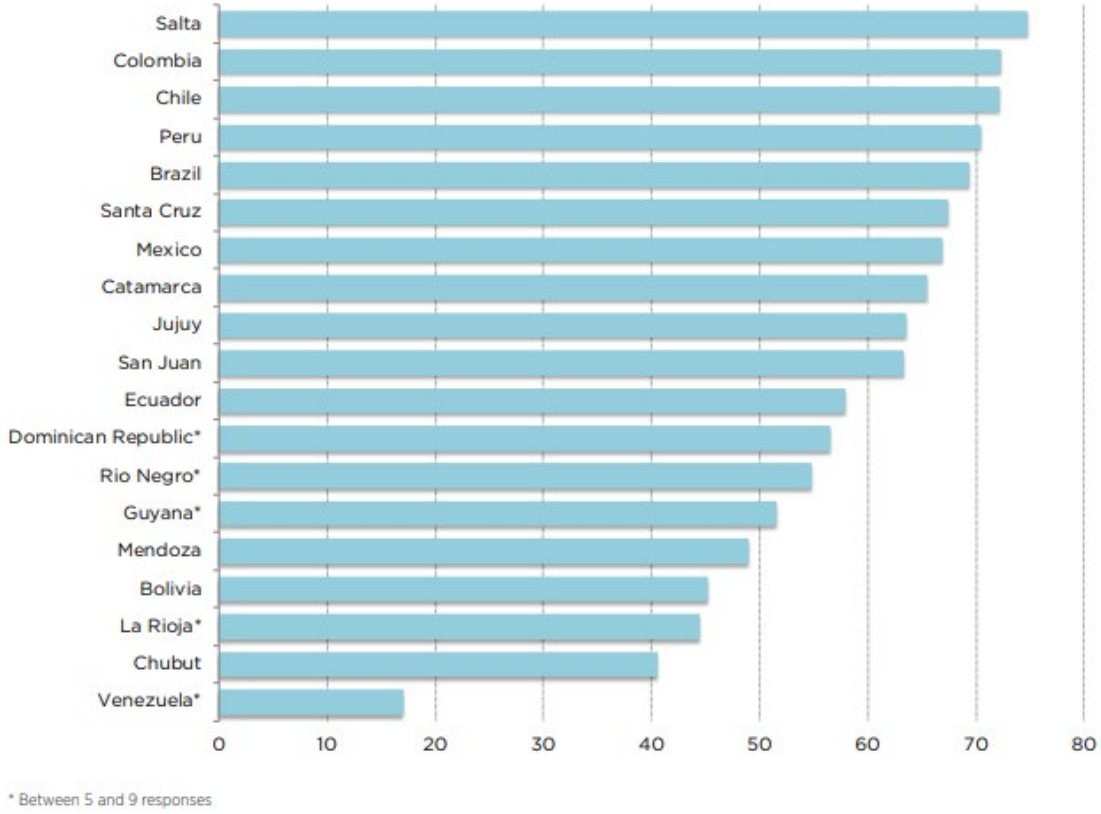
Mexican Historical Gold Production Data



Source: USGS, Couloir Capital

The below chart demonstrates that in the Fraser Institute's most recent annual mining survey, Mexico ranked 42nd out of 77 surveyed mining jurisdictions for the institute's 2020 investment attractiveness index and ranked as the fourth most attractive jurisdiction within the surveyed jurisdictions for Latin America specifically. This is fairly in line with historical performance as it has historically ranked in the top half or middle ground for global mining jurisdictions surveyed as part of the Fraser Institute's annual survey. However, the ranking did reflect a deterioration YoY, as the slide down to 42nd place was from previously ranking 36th. The deterioration in the perceived investment attractiveness of Mexico appears to have stemmed from increased uncertainty regarding the licensing processes in Mexico, as well as the drop off in new permit issuances. In addition, key cost pressures that face miners include the declining mine grades, leading to higher unit costs and increased over-burden processing, as well as an upward trajectory of energy costs. In addition, locally accessible skilled labour is considered to be in short supply, which poses the issues of high wage inflation as labour demand outpaces supply for mining-specific backgrounds.

Ranking of Latin American Mining Jurisdictions by Investment Attractiveness



Source: Fraser Institute, Couloir Capital

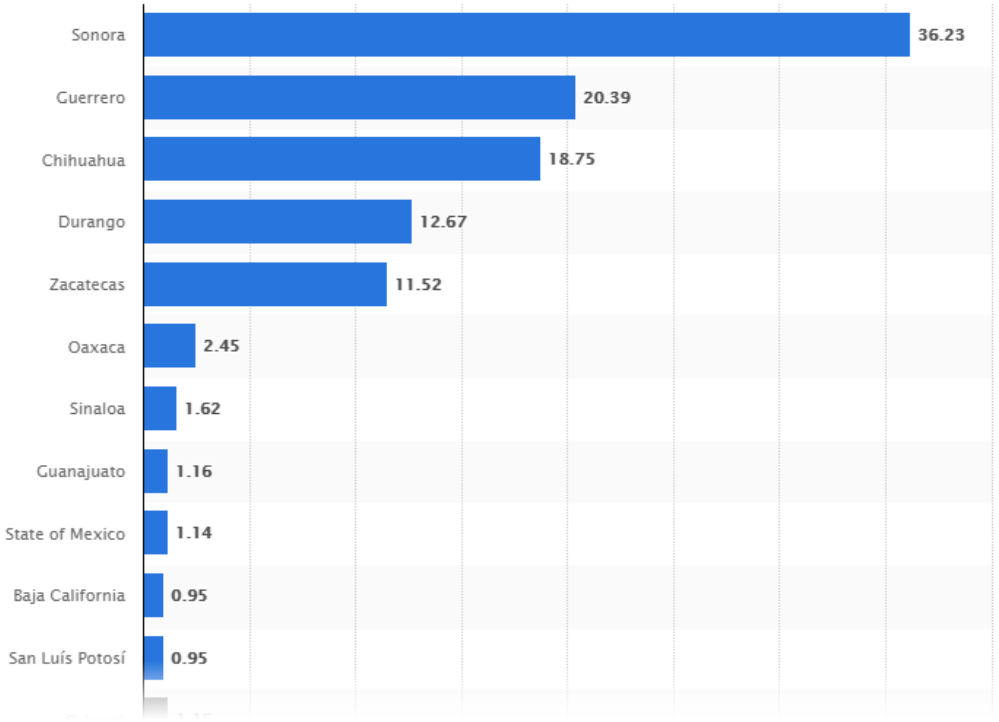
Reflecting Mexico's increased involvement in bilateral treaties as well as the current regimes indifference towards the Mexican mining industry, local environmental regulations have also become increasingly stringent, forcing miners to go through additional hurdles and red tape to secure permitting to allow things like tailings disposal and wastewater discharge. On the tax and royalty front, miners in Mexico are subject to a 7.5% royalty on mine sales less authorized deductions (a figure similar to EBITDA) and an additional 0.5% royalty on sales, should the miner be selling gold, silver or platinum. Another of the serious issues facing miners is the material impact local crime is having on mining operations in Mexico. Whilst a crackdown on drug cartels is ongoing, frequent incidences of local crime involving mining operations is a major risk factor that many miners are exposed to. As an example, in late 2019 US$6-8 million in dore bars were stolen from Fresnillo PLC's (LSE: FRES) Noche

Buena Mine in Sonora by armed criminals. Whilst armed security has been stepped up generally for Mexican mines, we believe crime is an issue that can represent material impact to ongoing mining operations.

Despite the challenges, Mexico is noted as a mining jurisdiction with major local resource abundance. Apart from its significant gold production outlined earlier, Mexico is also the world's largest producer of silver, and is also a major producer of other metals such as copper and zinc. The abundance of resources can largely be attributed to Mexico's geology – the country has some of the most tectonically active terrain with mountains chains across the country having been pushed up as a result. Due to this, key mineralized regions and belts thread the jurisdiction, with hydrothermal veins and mineralized gaps in the crust providing major precious metals potential. The mineral potential has attracted over 250 private exploration companies to Mexico.

Turning more locally to Durango, the state was the fourth largest producer of gold nation-wide, according to data from Statista, with production of 12.67 metric tons or 407,350 ounces. The state-by-state production of gold in Mexico is broken down below:

Mexico Gold Production in 2019, by State



Source: Statista

Management Overview

Management and directors own a total of 22.34% of outstanding shares. We see insider shareholding as a positive indicator, as it implies that management and the board are likely to be aligned with investors in their interests and motivations. Generally speaking, insider share ownership above 10% is seen as relatively high. In addition to insiders, key investors with major holdings in CKG include Eric Sprott and the Sun Valley Fund. After accounting for these individuals, total key person shareholding is 46%. The table below outlines insider and key investor shareholding:

Management & Key Investor Shareholding

Name	Position	Shares	% of Total
Alan Pangbourne	CEO & Director	7,456,000	11.07%
Randy Reifel	President & Director	4,591,278	6.82%
Taje Dhatt	VP Strategy & Corporate Development	2,100,000	3.12%
Gary Parkison	VP Development	75,000	0.11%
Erick Underwood	CFO		0.00%
Chris Falck	Lead Director	272,500	0.40%
Randy Buffington	Independent Director	51,551	0.08%
Doug Flegg	Independent Director		0.00%
Lian Li	Independent Director	108,500	0.16%
John Perston	Independent Director	397,800	0.59%
			22.34%
Major Investors		**Shares**	**% of Total**
Eric Sprott		8,758,399	13.00%
Sun Valley Fund		7,175,013	10.65%
		-	**23.65%**
Total		-	**46.00%**

Source: SEDI, Couloir Capital

The biographies of key management individuals (as provided by the company) are outlined below.

Alan Pangbourne – CEO & Director
Alan Pangbourne has over 35 years of experience in global mining operations and most recently was the President and CEO of Guyana Goldfields Inc. through to its sale to Zijin Mining Group Co., Ltd. in August 2020. Previously, Mr. Pangbourne was Chief Operating Officer of SSR Mining Inc.; Vice President Projects South America for Kinross Gold Corporation; and held increasingly senior roles at BHP Billiton Ltd., including President and Chief Operating Officer of Nickel Americas, Projects Director for BHP's Uranium Division, which includes the Olympic Dam Expansion, and Project Manager for BHP's Spence copper project in Chile. He was also General Manager at an engineering company that specialized in gold heap leach & carbon-in-pulp plants. Mr. Pangbourne holds a Bachelor of Applied Science (Extractive Metallurgy) and a Graduate Diploma in Mineral Processing from the Western Australian School of Mines.

Randy Reifel – President & Director
Randy Reifel has been a senior executive in the exploration business for 36 years. During this period, he has distinguished himself as a successful, strategic entrepreneur within the industry. Prior to establishing Chesapeake, Mr. Reifel was president of two exploration companies focused on Latin America, Carson Gold Corp. and Francisco Gold Corp. Mr. Reifel's early recognition of the Kilometer 88 gold district in Venezuela led to Carson Gold being acquired in 1993. With Francisco Gold, Mr. Reifel played a primary role in the creation, development, and financing of the El Sauzal and Marlin gold discoveries and the sale in 2002 to Glamis Gold Ltd. for $390 million. Mr. Reifel holds a Bachelor of Commerce degree and a Master of Science in Business Administration. Prior to the Newmont-Goldcorp merger, Mr. Reifel was a director of Goldcorp for 13 years.

Taje Dhatt – VP Strategy & Corporate Development
Taje Dhatt co-founded Alderley Gold Corp. and has a decade of experience in mergers and acquisitions, advisory and corporate finance matters. Previously, Mr. Dhatt was an investment banker with BMO Capital Markets Inc. and Macquarie Capital Markets Canada Ltd., where he mostly focused

in the mining sector advising companies on complex transactions relating to acquisitions, sales, mergers, joint ventures, and capital raising activities. Mr. Dhatt holds a B.B.A. from the Schulich School of Business at York University.

Erick Underwood – CFO
Mr. Underwood has over 25 years of experience in corporate development, business planning & analysis, treasury and accounting for the mining industry. Mr. Underwood's previous roles include Finance Director at Cia. Minera Zafranal SA (a Teck Resources Ltd. and Mitsubishi Materials Corporation joint venture and Chief Financial Officer of AQM Copper Inc., a formerly TSX-V listed company and prior owner and operator of Zafranal where he contributed to the development of the project and subsequent sale of AQM Copper Inc. to Teck Resources Ltd. During his career, Mr. Underwood played key roles in securing approval for investment projects such as Highland Valley Copper $475M mine extension and mill modernization, Antamina $1.3 billion 130ktpd expansion and Spence $950M greenfield project. He holds an MBA from the Rotman School of Management of University of Toronto, a Graduate Diploma in Management from McGill University, a B. Comm. from McGill University, as well as the CPA, CMA professional designations from CPA Ontario.

Chris Falck – Lead Director
Chris Falck formerly a chartered accountant and Principal with Pricewaterhouse Coopers LLP in their Corporate Finance and Investment Banking Group, has over 35 years of experience in the mining industry. Previously a CFA charter holder, Mr. Falck also worked for 13 years with an institutional asset manager dedicated to precious metals investment advisory as an analyst and later the Director of Mining Research. Mr. Falck has served as a director for several public junior mining companies some subsequently acquired through successful M&A transactions. Mr. Falck is the Lead Director of Chesapeake's Board.

Randy Buffington – Independent Director
Randy Buffington was recently Chairman, President and Chief Executive Officer of Hycroft Mining Holding Corporation until July 2020. Previously, Mr. Buffington was Senior Vice President of Operations for Coeur d'Alene Mines Corp. and served in management roles for Barrick Gold Corporation, including Managing Director of the Lumwana copper mine in Zambia; General Manager of the Goldstrike mine; and General Manager of the Ruby Hill and Bald Mountain mines in Nevada. Mr. Buffington also worked at Placer Dome Inc.'s Bald Mountain mine, and Cominco American Inc.'s Buckhorn Mine. Mr. Buffington has a Masters degree in Civil Engineering.

Doug Flegg – Independent Director
Doug Flegg has over 30 years experience in mining finance with senior positions in research, portfolio management and global equity sales. Previously, Mr. Flegg was Managing Director Global Mining Sales with BMO Capital Markets and instrumental in raising $35 billion in over 200 corporate financings. During his career, Mr. Flegg provided investment ideas and strategic insights to both institutional client and senior industry management. Mr. Flegg has a B.Sc. in Geology and an MBA from Queens University.

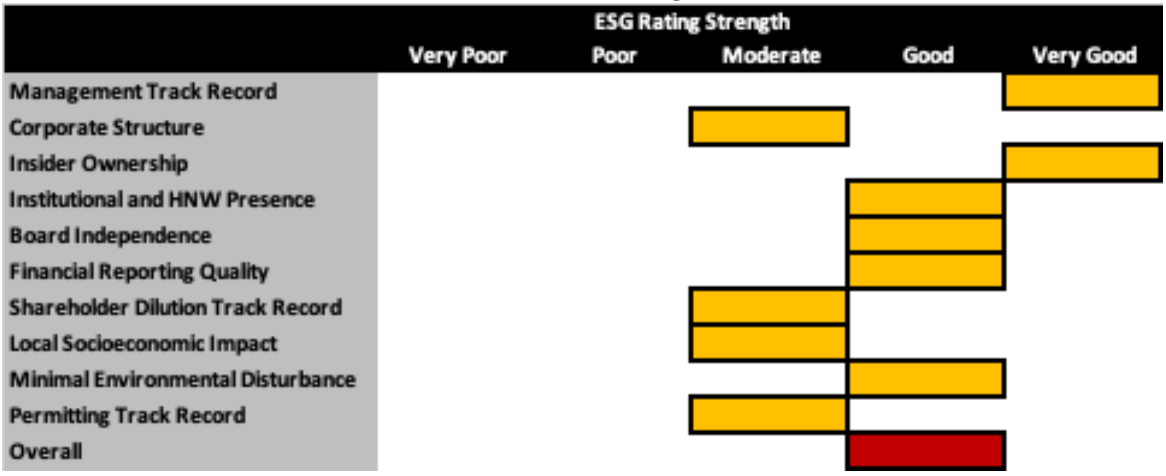
Lian Li – Independent Director
Lian Li is an international business consultant with over 20 years experience in investment banking and corporate finance. She has served with Capital House in London; Primasia Investment Management Ltd and South China Group in Hong Kong. Ms. Li has also advised major corporations from the USA, China, Australia and Europe. Ms. Li holds a Master's Degree from Brunel University in London, England and a B.A. from Northeastern University of Finance and Economics in China.

John Perston – Independent Director

John Perston is a professional geologist with 40 years experience in the mineral exploration and contracting business. Mr. Perston has worked extensively in Latin America since 1971 and brings a depth of experience in project evaluation and development. Prior to being a founding director of Francisco Gold Corp. in 1993, his consulting business identified Minefinders Corporation Ltd.'s Mexican Dolores project in 1991 and retained a royalty until 1998. Mr. Perston holds a B.Sc. Honors from London University and a Masters in Geology.

In addition to our review of the company's management and directorship, the below table outlines our ESG rating parameters for CKG. Note that this is a largely qualitative rating measure based on publicly available information – it may not fully reflect the company's true governance strength. Particularly strong governance ratings can positively impact our corporate valuations, whilst weak ratings call for a discount in our framework.

MMS ESG Rating



Source: Couloir Capital

Financials Overview

At the end of Q2-2021, the company had cash and working capital of $33.2 million and $33.93 million, respectively. The company's current ratio of 21.11x implies the ability of current assets to sufficiently cover current liabilities, implying a sufficient liquidity position at the end of June 2021. Monthly cash burn (negative free cash flow) for Q2-2021 was $0.47 million, higher than the comparative period in 2020, which we attribute to more exploration activity. The company has no formal debt, outside of a lease liability and a promissory note due to the president-founder Randy Reifel that bears a 5% coupon (and is due on demand). The following table summarizes the company's liquidity position:

Key Financial Data (FYE - Dec 31) (C$)		2020		Q2-2021
Cash	$	34,247,800	$	33,200,300
Working Capital	$	34,552,000	$	33,929,400
Current Ratio		20.51		21.11
Debt	$	703,500	$	700,500
Monthly Cash Burn	$	(122,233)	$	(472,833)
Cash from Financing Activities	$	247,200	$	1,897,700

Source: Company, Couloir Capital

The following table outlines the company's outstanding options. The company had 5.29 million options (weighted average exercise price of $3.84 per share) outstanding. We estimate that potential cash proceeds from ITM options could total $10.89 million, if those options were exercised.

Options	Strike	Exercise Value
2,115,000	$ 3.30	$ 6,979,500
706,000	$ 3.75	$ 2,647,500
400,000	$ 3.15	$ 1,260,000
1,850,000	$ 4.56	$ 8,436,000
150,000	$ 4.55	$ 682,500
73,500	$ 4.37	$ 321,195

Source: Company, Couloir Capital

Revenue and EPS Forecasts

As CKG only expect Metates to reach production in 2026, we will refrain from providing near-term revenue and EPS forecasts. We typically only provide such guidance for companies with production milestones within two years, who have an appropriate degree of certainty around the likelihood of reaching production (i.e., project is financed, fully or close to fully permitted, and construction is underway).

Net Asset Valuation Model

Our models assume the production schedule outlined in the PEA, as well as many of the report's base case assumptions, but incorporates our own assumptions on LOM average gold pricing and discount rate. **Our base case DCF model, which assumes a long-term gold price of US$1,700 per oz and a discount rate of 10%, implies a NAV of $660.1 million, or $9.08 on a per share basis.** Our discount rate of 10% is higher than the PEA's 5% discount rate, and we believe more accurately reflects the risk profile of the company at this point in time. The sensitivity table provided below outlines the various NAV per share given changes in the long-term gold price or discount rate:

	LOM Gold Price Assumption (US$/Oz)				
	$ 1,500	$ 1,600	$ 1,700	$ 1,800	$ 1,900
6%	$ 13.03	$ 14.46	$ 15.89	$ 17.32	$ 18.75
8%	$ 9.71	$ 10.82	$ 11.93	$ 13.04	$ 14.15
10%	$ 7.33	$ 8.21	**$ 9.08**	$ 9.96	$ 10.84
12%	$ 5.59	$ 6.30	$ 7.00	$ 7.71	$ 8.41
14%	$ 4.30	$ 4.87	$ 5.45	$ 6.02	$ 6.60

Source: Couloir Capital

Comparables Valuation

As our other source of valuation, we consider CKG's relative valuation against other mining companies that we believe to be comparable. The table below outlines our peer group selection:

Company	After-Tax NPV@5% (C$)	Net Au eq. Oz	Market Cap (C$)	Enteprise Value (C$)	P/NPV	EV/ Net Oz
Chesapeake Gold Corp.	$ 857,000,000	27,691,579	265,425,980	$ 232,926,180	$ 0.31	$ 8.41
Orla Mining Ltd.	$ 816,400,000	14,684,793	1,117,494,462	$ 1,258,635,462	$ 1.37	$ 85.71
Minera Alamos Inc.	$ 100,100,000	681,592	265,163,012	$ 248,963,872	$ 2.65	$ 365.27
Mexican Gold Mining Corp.	$ 71,500,000	623,500	9,250,707	$ 8,614,707	$ 0.13	$ 13.82
Lumina Gold Corp.	$ 2,042,300,000	17,660,058	220,314,770	$ 225,138,017	$ 0.11	$ 12.75
Belo Sun Mining Corp.	$ 864,500,000	5,531,500	259,381,492	$ 232,535,492	$ 0.30	$ 42.04
Discovery Silver Corp.	$ 910,000,000	15,981,250	507,227,331	$ 434,436,741	$ 0.56	$ 27.18
GMV Minerals Inc.	$ 130,000,000	344,000	19,997,607	$ 19,625,397	$ 0.15	$ 57.05
Almaden Minerals Ltd.	$ 403,000,000	3,948,000	69,982,919	$ 60,572,919	$ 0.17	$ 15.34
Artemis Gold Inc.	$ 2,247,000,000	12,550,000	792,582,451	$ 592,755,741	$ 0.35	$ 47.23
Corvus Gold Inc.	$ 981,500,000	4,098,188	504,104,526	$ 504,797,526	$ 0.51	$ 123.18
Sabina Gold & Silver Corp.	$ 1,118,000,000	7,749,000	511,658,454	$ 467,428,454	$ 0.46	$ 60.32
Falco Resources Ltd.	$ 1,266,200,000	8,369,000	106,979,197	$ 128,459,217	$ 0.08	$ 15.35
Osisko Development Corp.	$ 523,250,000	5,085,000	996,153,434	$ 864,426,434	$ 1.90	$ 170.00
Average (Ex: Outliers)					**$ 0.65**	**$ 35.02**

Source: Couloir Capital, Public Disclosures

Based on the above metrics, we believe that CKG should be trading at a valuation of $554.72 million or $7.63 per share on a P/NPV basis, and $969.72 million or $13.79 per share on and EV/ net resource basis, implying that the company is trading below fair value.

Conclusion

After accounting for our valuation models, we have arrived at fair value per share estimate of $10.17 per share. We are initiating coverage on CKG with a BUY rating, and expect the following catalysts to materially impact our valuation estimate:

- Any news regarding the progress of ongoing metallurgical work on the sulphide ore at Metates.
- Any news regarding drilling and other exploration work at Metates.
- Further announcements around the development timeline at Metates, including the release of a follow up PFS off the back of the recent PEA.
- Any news regarding exploration or other initiatives at CKG's other projects.
- Any news suggesting a delay in exploration, development and/ or permitting timelines.
- Financing-related news that in any way significantly alters the company's capital structure.

Risks

The following outlines some of the key risk considerations that investors should keep in mind when evaluating CKG as an investment opportunity:

- **Unproven Economics and Forecast Error:** Though the company has completed multiple development studies on Metates, any projections of future mine economics are subject to significant estimation error. Recoveries have not been proven at commercial scale, production scheduling is approximated and other key inputs to modelling may be impacted by biases or errors of various kinds. Furthermore, the company are betting on its recently acquired IP being sufficient to economically extract gold from sulphide ore in a heap leaching operational format, which is a fairly unproven methodology at large-scale.
- **Execution Risk on Key Development and Exploration Milestones:** The company is simultaneously working on multiple initiatives, including metallurgical testing and optimizing project design parameters. Failure or delays ay any key stage can hold back the overall advancement of Metates to commercial production.
- **Project Financing Risk:** The projected CAPEX for Metates Phase I, though far lower than that projected by previous PFS, is still significant and in excess of the company's market valuation.

Pure equity-funded development will incur outsized dilution, so it is likely the company will need to secure a line of debt / other project financing to execute on the project.

- **Market Price Exposure and Impact on Execution Risk:** CKG's exploration and development activities will be sensitive to market pricing during the development stage given its reliance on markets for funding needs.
- **Capital Structure Deterioration Related to Ongoing Cash Burn:** There is the potential that the company's cash burn could sap liquidity to the point of the company needing to raise capital. Assuming no cash flows, there is a chance that CKG would do so via equity issuance. Depending on the price of the issuance, such issuance could be dilutive to existing shareholders.

Disclaimer

This report has been prepared by an analyst on contract with or employed by Couloir Capital Ltd. The analyst certifies that the views expressed in this report which include the rating assigned to the issuer's shares as well as the analytical substance and tone of the report accurately reflects his or her personal views about the subject securities and the issuer. No part of his / her compensation was, is, or will be directly or indirectly related to the specific recommendations.

Couloir Capital Ltd. is affiliated Couloir Capital Securities Ltd., an Exempt Market Dealer. They shall be referred to interchangeable as Couloir Capital herein. Part of Couloir Capital's business is to connect mining companies with suitable investors that qualify under available regulatory exemptions. Couloir Capital, its affiliates and their respective officers, directors, representatives, researchers and members of their families may hold positions in the companies mentioned in this document and may buy and/or sell their securities. Additionally, Couloir Capital may have provided in the past, and may provide in the future, certain advisory or corporate finance services and receive financial and other incentives from issuers as consideration for the provision of such services.

Couloir Capital has prepared this document for general information purposes only. This document should not be considered a solicitation to purchase or sell securities or a recommendation to buy or sell securities. The information provided has been derived from sources believed to be accurate but cannot be guaranteed. This document does not consider the particular investment objectives, financial situations, or needs of individual recipients and other issues (e.g. prohibitions to investments due to law, jurisdiction issues, etc.) which may exist for certain persons. Recipients should rely on their own investigations and take their own professional advice before making an investment. Couloir Capital will not treat recipients of this document as clients by virtue of having viewed this document.

Company specific disclosures, if any, are below:

1. *In the last 12 months, Couloir Capital has been retained under a service or advisory agreement by the subject issuer.*

Investment Ratings -Recommendations

Each company within an analyst's universe, or group of companies covered, is assigned:

1. *A recommendation or rating, usually BUY, HOLD, or SELL;*
2. *A 12-month target price, which represents an analyst's current assessment of a company's potential stock price over the next year; and*
3. *An overall risk rating which represents an analyst's assessment of the company's overall investment risk.*

These ratings are more fully explained below. Before acting on a recommendation, we caution you to confer with your investment advisor to determine the suitability of our recommendation for your specific investment objectives, risk tolerance and investment time horizon.

Couloir Capital's recommendation categories include the following:

Buy
The analyst believes that the security will outperform other companies in their sector on a risk adjusted basis or for the reasons stated in the research report the analyst believes that the security is deserving of a (continued) BUY rating.
Hold
The analyst believes that the security is expected to perform in line with other companies in their sector on a risk adjusted basis or for the reasons stated in the research report the analyst believes that the security is deserving of a (continued) HOLD rating.
Sell
Investors are advised to sell the security or hold alternative securities within the sector. Stocks in this category are expected to under-perform other companies on a risk adjusted basis or for the reasons stated in the research report the analyst believes that the security is deserving of a (continued) SELL rating.
Tender
The analyst is recommending that investors tender to a specific offering for the company's stock.
Research Comment
An analyst comment about an issuer event that does not include a rating.
Coverage Dropped
Couloir Capital will no longer cover the issuer. Couloir Capital will provide notice to clients whenever coverage of an issuer is discontinued. Following termination of coverage, we recommend clients seek advice from their respective Investment Advisor.
Under Review
Placing a stock Under Review does not revise the current rating or recommendation of the analyst. A stock will be placed Under Review when the relevant company has a significant material event with further information pending or to be announced. An analyst will place a stock Under Review while he/she awaits enough information to re-evaluate the company's financial situation.

The above ratings are determined by the analyst at the time of publication. On occasion, total returns may fall outside of the ranges due to market price movements and/or short-term volatility.

Overall Risk Rating

Very High Risk: *Venture type companies or more established micro, small, mid or large cap companies whose risk profile parameters and/or lack of liquidity warrant such a designation. These companies are only appropriate for investors who have a very high tolerance for risk and volatility and who can incur temporary or permanent loss of a very significant portion of their investment capital.*
High Risk: *Typically, micro or small cap companies which have an above average investment risk relative to more established or mid to large cap companies. These companies will generally not form part of the broad senior stock market indices and often will have less liquidity than more established mid and large cap companies. These companies are only appropriate for investors who have a high tolerance for risk and volatility and who can incur a temporary or permanent loss of a significant portion of their investment capital.*
Medium-High Risk: *Typically, mid to large cap companies that have a medium to high investment risk. These companies will often form part of the broader senior stock market indices or sector specific indices. These companies are only appropriate for investors who have a medium to high tolerance for risk and volatility and who are prepared to accept general stock market risk including the risk of a temporary or permanent loss of some of their investment capital*
Moderate Risk: *Large to very large cap companies with established earnings who have a track record of lower volatility when compared against the broad senior stock market indices. These companies are only appropriate for investors who have a medium tolerance for risk and volatility and who are prepared to accept general stock market risk including the risk of a temporary or permanent loss of some of their investment capital.*