SPEC BUY

Current Price	$0.20
Target Price	$0.33

Ticker:		MOY
Sector:		Materials
Shares on Issue (m)*:		780.9
Market Cap ($m)*:		152.3
Cash and Bullion Estimate ($m)*:		27.7
Debt Estimate ($m)*:		2.5
Enterprise Value ($m)*:		127.1
52 wk High/Low:	$0.42	$0.12
12m Av Daily Vol (m):		3.81

Mineral Inventory (at December 2014)

	Mt	g/t	koz
Reserves	4.0	1.4	186
Resources	31.8	1.3	1280

	$/oz
EV / Reserve	683
EV / Resource	99

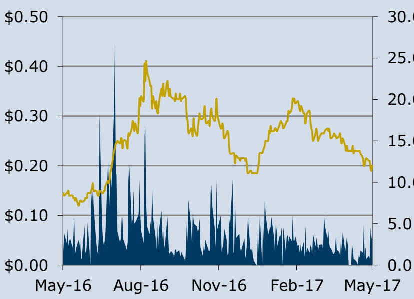
Directors and management:

Greg Bittar	Non-Executive Chairman
Peter Cash	CEO
Michael Chye	Executive Director
Tim Kennedy	Non-Executive Director
Peter Lester	Non-Executive Director

Substantial Shareholders:

Heritas Capital Management	39.6%
IMC Resource Investment	6.2%

Share Price Graph



Friday, 12 May 2017

Millennium Minerals

Expanding production and mine life

Analysts | James Wilson | Matthew Keane

Quick Read

Millennium Minerals (MOY) operates the Nullagine Gold Mine, located in the Pilbara region of Western Australia. FY17 guidance is 80-85koz at an all-in sustaining cost (AISC) A$1,190-1,220/oz. Whilst the current short reserve life (~2 years) is acknowledged, the investment case is becoming more compelling as MOY demonstrates the potential for mine life extension and production upside via a proposed sulphide flotation treatment option. Historically, MOY's strategy has been focussed on the near surface easily won oxide ores at Nullagine with limited drilling below the base of oxide (~50m). We see strong potential for a number of near term catalysts shown below which would serve to back-fill value from an extended mine life and lower costs by targeting resources into the fresh rock. MOY has $27.7m in cash and baseline studies are progressing to determine the viability of treating fresh ore sources. Exploration remains a strong area of growth with $22m budgeted for 2017 with a focus on resource to reserve conversion and testing the oxide and sulphide potential along the 40km of strike extent at Nullagine. Argonaut assigns a Speculative Buy and target price of $0.33ps.

Event & Impact | Positive

Solid March Quarter despite 23 days lost to rain: March Q production was 17koz @ AISC A$1,362/oz. The result was 3.5koz below budget following 23 mining and haulage days being lost due to rain related events. Despite the disruptions, MOY generated $3.9m of free operating cashflow during the March Q. The Company remains on track to comfortably meet the mid-point of its 80-85koz at an AISC of $1,190-$1,220/oz.

A strategy to treat fresh rock ores: Current drill programs have a two-fold approach to define additional near surface oxide ores whilst further defining fresh rock material which could be treated via a proposed 500ktpa sulphide treatment plant. Argonaut believes a bolt on float plant could be constructed for relatively cheap capex of ~$20-$25m with a Feasibility Study expected to begin mid-2017.

Met test-work is encouraging: Initial metallurgical test work from The Golden Gate, Little Wonder and Golden Eagle deposits has returned sulphide recoveries of greater than 90%. These deposits represent ~600koz of the existing 1.3Moz resources (48%) so the conversion into reserves via sulphide flotation remains a key value driver. Further work is planned concurrent with the existing exploration program.

Free milling material in fresh rock: Recent drilling at The Bartons Pit at Nullagine has highlighted the potential for open pit cutbacks and underground optionality for free milling ores. Best results of 16m @ 5.91g/t and 8m @ 11.56g/t Au highlight the extensive high grade free milling gold mineralisation below the existing Bartons Pit. First pass optimisations demonstrate substantial ounces could be added via a cut-back.

Recommendation

Argonaut maintains a Speculative Buy recommendation and a target price of $0.33ps.

Growing mine life in the short term

March Q production of 17koz was 3.5koz below budget, but was impacted by 23 days' rain delay to haulage and mining

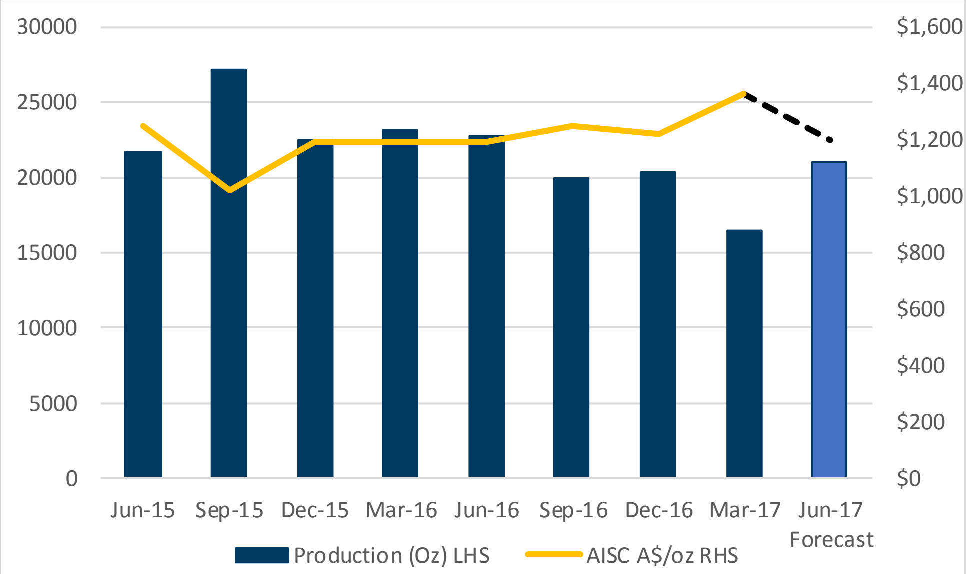
Project ore reserves stand at 186koz representing around two years of mine life at current production rates. The short mine life presents both a challenge and an opportunity. Tangible exploration success and a treatment solution for fresh rock ores could significantly increase the mine life and valuation.

Solid March Quarter

March Q production was 17koz @ A$1,362/oz. The result was 3.5koz below budget following 23 mining and haulage days being lost due to rain related events. MOY generated $3.9m of free operating cashflow during the March Q. The company remains on track to comfortably meet the mid-point of its 80-85koz at an AISC of $1,190-$1,220/oz.

The June Q should see a strong bounce in production in the drier months

Figure 1: Nullagine production and costs 2015-2017 (Jun Q 17 – Argonaut forecast)



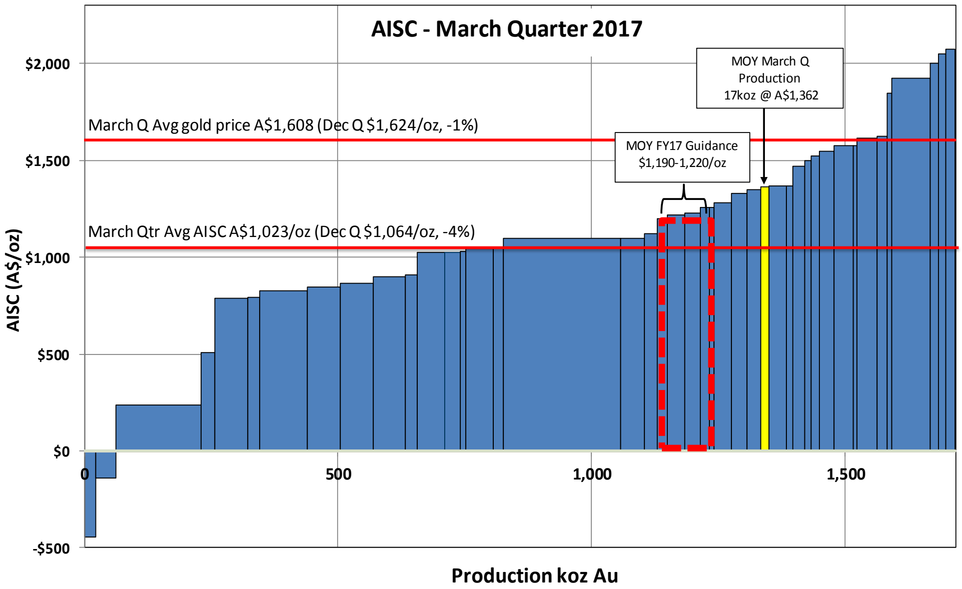
Source: MOY, Argonaut

Mill throughput and production capacity should bounce back strongly in the June Q.

Argonaut expects production rates will rise in the June Q, back in line with historical production rates. Mill throughput was 467kt (-8% Q-o-Q) and production capacity was reduced by 27%. As a result, we see a rebound in production in the June Q as a near term value catalyst.

Figure 2: ASX Gold Sector – All-in sustaining costs March Q CY17

MOY's costs are broadly in line with the mid-point of its sector peers. FY17 cost guidance remains at A$1,190-$1,220/oz



Source: Argonaut, Company Reports

Free milling material in fresh rock

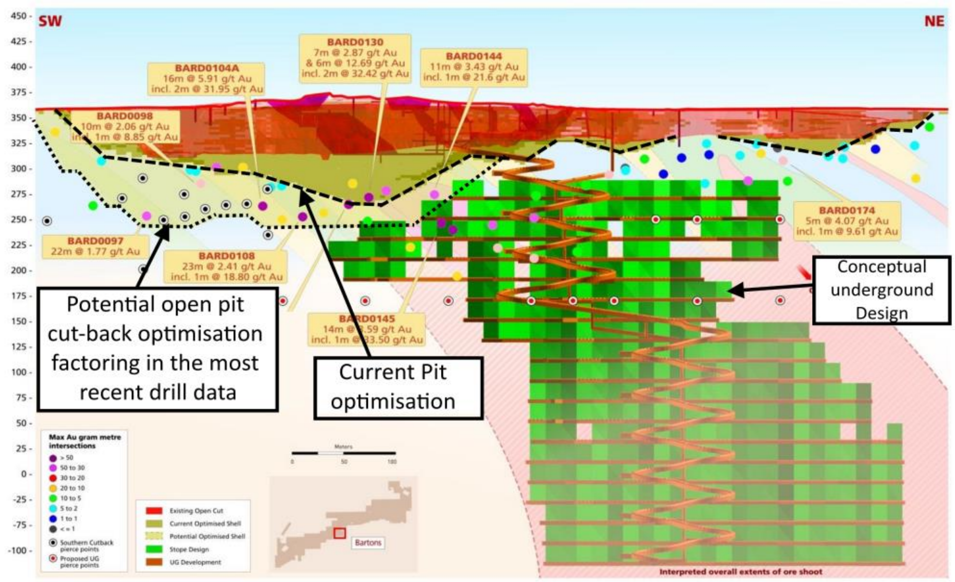
Recent drilling at Bartons has highlighted high grades and depth potential. Grades included 16m @ 5.91g/t

Recent drilling at The Bartons Pit at Nullagine has highlighted the potential for open pit cutbacks and underground optionality for free milling ores. High grade results returned from the southern end of the pit include intercepts such as 16m @ 5.91g/t (from 115m), 8m @ 11.5g/t (from 87m) and 4m @ 18.60g/t (from 65m). The results are important because the high grade ore is amenable to treatment via the CIL circuit. MOY believes that a cutback at Bartons could be achieved in conjunction with deeper ores to be accessed by underground methods. First pass optimisations have shown this is achievable and infill drilling has commenced with the aim of upgrading resources as well as testing for extensions to known mineralisation. This plan forms part of the broader picture for MOY to drill out the fresh rock ores and to treat them via the existing CIL circuit and a future sulphide flotation plant which is currently being assessed.

The extensions mean that a larger cutback and underground operation could be considered at Bartons ….

….with ore that is treatable using the existing CIL circuit

Figure 3: Bartons Pit drilling with cut-back and underground development potential



Source: MOY, modified by Argonaut

Met test-work is encouraging

Metallurgical test-suggests sulphide flotation recoveries >90% are possible at Golden Gate, Little Wonder and Golden Eagle…..

Initial metallurgical test work from The Golden Gate, Little Wonder and Golden Eagle deposits has returned sulphide recoveries of greater than 90%. These deposits represent ~600koz of the existing 1.28Moz resource (48%), so the conversion into reserves and extraction via sulphide flotation remains a key value driver. Further work is planned concurrent with the existing exploration program.

The Path forward, a strategy to treat fresh rock ores

….which represents over 600koz of the existing 1.28Moz resource base, and could grow the mine life substantially if the sulphide flotation concept is viable

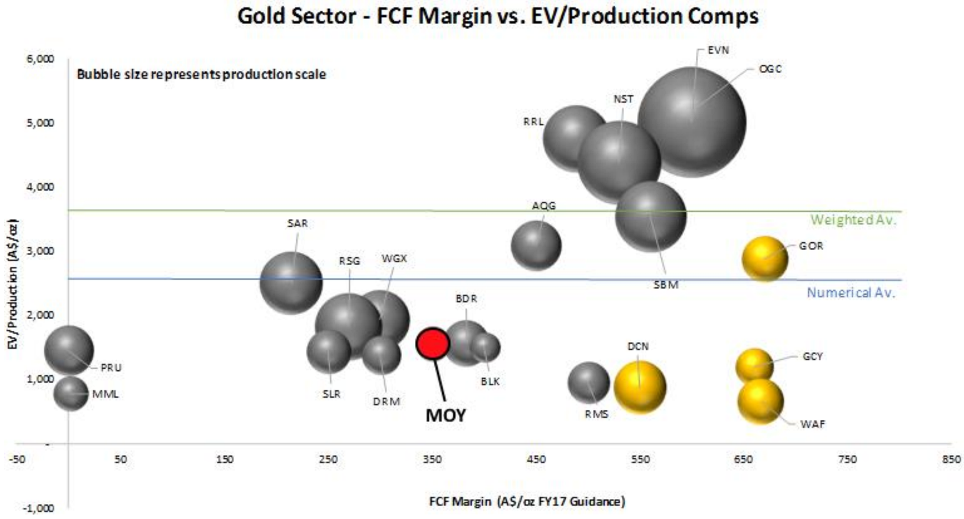
Current drill programs have a two-fold approach to define additional near surface oxide ores whilst further defining fresh rock material which could be treated via a proposed 500ktpa sulphide treatment plant. Argonaut believes a bolt on float plant could be constructed for a relatively cheap capex of ~$20m. MOY has excess power generation capacity and the potential to optimise crushing capacity for use with the existing CIL and new sulphide circuit would considerably lower start-up costs for a flotation plant. Argonaut believes the sulphide float plant could conceptually deliver around 20kozpa into the mine plan in addition to the 80-85kozpa from the CIL circuit. Further upside could be achieved to upscale the plant size dependent on the optimisation of MOY's back end crushing infrastructure.

Peer comparisons

MOY trades at an EV/Production of $1,600/oz, well short of its peer group due to mine life….

MOY trades at an EV/production of ~A$1,600/oz vs its larger production peer group weighted average of >$3500/oz (+136% upside) and numerical average of ~$2,500/oz, (+70% upside). Argonaut believes that as the sulphide treatment studies are completed and the read-through to increased production rates and mine life becomes more tangible, MOY will begin to trade more in line with its production peers.

Figure 4: Gold sector comparisons



Source: Argonaut

…If MOY can grow mine life through a new float circuit, the stock should move higher and trade more in line with its peer group as margins and production improves.

Investment thesis

Opportunities and Risks

Short term targets are focussing on CIL amenable resources at Bartons and the sulphide float opportunity for resources in the Golden Gate, Little Wonder and Golden Eagle deposits which contain 600koz Au. If MOY can unlock the value of these deposits we can see a read-through to a >5-year mine life.

The key risk of the project is the short mine life and mining schedule which incorporates mining of several small open pits which increases operational complexity. Additional risks include the potential for a positive economic outcome for the sulphide flotation study, the ability to fund the expansion either through existing cashflow or via an alternative financing solutions and the ability to maintain steady state production from the proposed underground ore sources.

Valuation breakdown

We identify 60% value upside to our risk weighted valuation of $0.33ps

We identify 73% upside potential to our NPV risked valuation of $0.33ps based on the aggregate valuations of MOY's assets. Our risk weightings include a $40/oz valuation on the residual 860koz fresh rock resource and a conservative $20m (500koz @ $40/oz) valuation on exploration upside outside of existing resources. In our view, the easiest path to equity upside is via the successful outcome of the sulphide flotation study, and further development and exploration success.

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Important Disclosure: Argonaut acts as Financial Adviser to MOY and will receive fees commensurate with these services.

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