



## Increasing Reserves and mine life

### Recommendation

**Accumulate, High Risk**

### Price

**28c**

### Valuation

**30.5c**

### Commodity

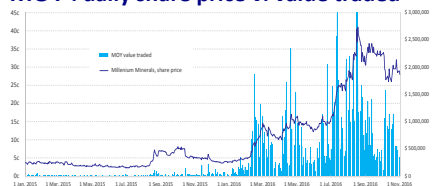
**Gold**

- **MOY's quarterly report showed production of just over 20koz for the September quarter, to 66koz ytd, at an AISC of \$A 1249/oz for the quarter, and \$A 1211/oz year to date.**
- **MOY announced updated Resource and Reserve estimates; in the 6 months since 31 March, MOY increased Resources by 116koz, or 10.8%, and Reserves by 25koz, or 15.8%, after mining about 47koz.**
- **MOY also announced many good drill intersections from recent drilling, including 12m at 8.96g/t, 17m at 3.86g/t, 16.8m at 4.08g/t and 9m at 6.63g/t.**
- **Beer & Co has revised our risked, base case valuation to 30.5c/share; we affirm our accumulate recommendation.**

### Snapshot

|                        |               |
|------------------------|---------------|
| Market Cap             | \$208m        |
| Net Cash (Sept 2016)   | \$24.1m       |
| Shares on Issue        | 780.9m        |
| 52 Week High           | 41.5c         |
| 52 Week Low            | 3.5c          |
| 1 month / 6 month VWAP | 28.8c / 24.0c |

### MOY : daily share price v. value traded



MOY began mining operations at Nullagine in September 2012. The operations were declared commercial in February 2013.

Following a change in management in December 2014, the operations have been turned around. MOY is now debt free with significant free cash.

MOY has over 1.0Moz in Resources, but only 160koz in Reserves. In late 2015, MOY began a \$10m a year program to boost Reserves and mine life.

The Nullagine area has more than 30 further shallow oxide prospects as well as, and prospects for deeper mineralisation and refractory material in Resources as a possible later option.

**Author :** Pieter Bruinstroop  
[pbruinstroop@beerandco.com.au](mailto:pbruinstroop@beerandco.com.au)

### MOY's quarterly report : setting up the future

MOY reported production of just over 20koz at an AISC of \$A 1249/oz. Year to date total nearly 66koz at an AISC of \$1211/oz. Guidance for 2016 remains 80 – 85koz at \$A 1180 – 1220/oz.

MOY processed 508kt of ore grading 1.32g/t, which is the lowest feed grade ever reported by MOY.

MOY moved over 1.4m BCM of material, which is more 40% more than the previous greatest volume in a quarter, and 58% above the average.

This indicates that during the quarter, MOY focussed on development and kept the mill fed from low grade stocks.

### MOY increases Resources and Reserves

MOY has invested \$6.85m in exploration and evaluation since its previous Resource and Reserves estimate at 31 March. After allowing for 47koz of gold mined, MOY increased Resources by 116koz to 1192koz, and Reserves by 24koz, or \$A 95/oz of Reserves.

Total Reserves comprise 3.95Mt at 1.45g/t; excluding stockpiles, Reserves total 3.3Mt at 1.58g/t.

### Beer & Co has revised our risked, based case valuation to 30.5c/share.

MOY continued to report many good results from its drilling.

Beer & Co's revised valuation assumes :

- Gold price US\$ 1,300/oz, at AUD-USD rate 0.750; and
- MOY invests \$10m for each of the next 7 years to find and develop 2.0Mt of reserves, compared with 1.4Mt in the last 6 months, at an average grade of 1.6g/t.

### Beer & Co affirms Accumulate recommendation.

The MOY share price has, over the last 2 months or so, closely tracked the gold price. Beer & Co is positive on the gold price.

Our valuation is above the share price. Our valuation should rise as Reserves increase. Beer & Co affirms our Accumulate recommendation.

This report was produced by Beer & Co Research, an independent research and advisory firm.  
 It is intended for wholesale investors ONLY.

If you do not wish to receive our research, please email to [info@beerandco.com.au](mailto:info@beerandco.com.au) with "unsubscribe"  
 If you wish to receive, free of charge, Beer & Co research, please register at <http://beerandco.com.au/all-research/>

**MOY's operations as expected**

**September quarterly operations**

MOY's quarterly operations report for the September quarter showed :

- 508kt of ore processed;
- Average grade of ore processed was 1.32g/t
- 20,018oz of gold was produced;
- At an All In Sustaining Cost (AISC) of \$A 1249/oz.

MOY reported production for the September quarter that was lower for the March and June quarters

Due to lower grade ore being processed; and

More material being shifted

This brings year to date

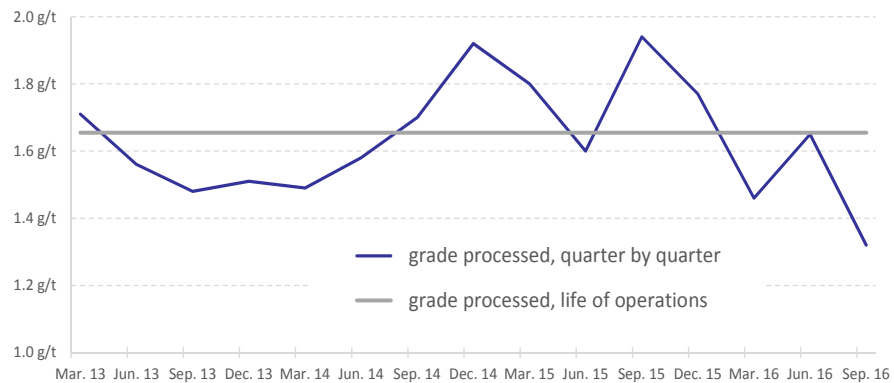
- Gold produced to 65,944oz;
- At AISC \$A 1211/oz.

MOY has maintained guidance for 2016 of 80 – 85koz at \$A 1180 - \$ 1220/oz.

As shown in Figure 1, the grade of ore processed was the LOWEST in the history of MOY's operations.

The lower than expected grade of ore fed into the mill , Beer & Co assumes, is because ore form low grade stockpiles was used

**Figure 1 : Grade of ore processed at Nullagine**

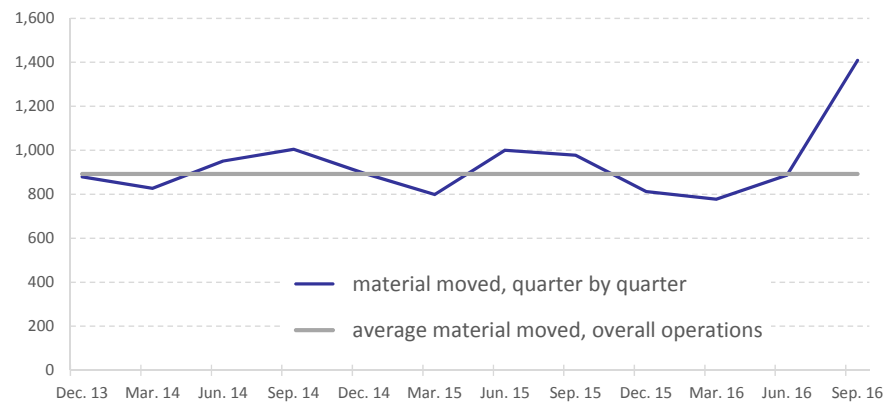


Source : MOY quarterly reports, Beer & Co

Figure 2 shows that the amount of material moved in the September quarter was 40% higher than the next highest quarter, or 58% higher than the average before that time.

Which arose as MOY focussed on material movement and setting up the Nullagine operations for future production

**Figure 2 : Material moved, MOY's Nullagine operations**



Source : MOY quarterly reports, Beer & Co

## Beer & Co's Analysis

After exploration, evaluation and development, MOY generated \$2.7m in net cash

In our view, this shows that MOY made a decision to move more material, with pre-stripping of Shearer's and Otways.

To keep the mill operating at optimum capacity, Beer & Co expects that some feed was used from lower grade stocks, reducing average grade.

Development expenditure was \$2.75m, the highest since the June 2013 quarter, due to construction of tailings storage capacity. Despite the increase in both exploration and development expenditure, MOY still generated net cash of \$2.7m during the quarter.

## MOY's Resources and Reserves

### Resources

MOY upgraded its Mineral Resources Estimate as of 30 September, updating its estimate of 31 March. Figure 3 shows the upgraded MRE.

**Figure 3 : MOY's upgraded Mineral resource Estimate for Nullagine**

| Deposit               | Measured Resources |            |            | Indicated Resources |            |            | Inferred Resources |            |            | TOTAL        |            |              |
|-----------------------|--------------------|------------|------------|---------------------|------------|------------|--------------------|------------|------------|--------------|------------|--------------|
|                       | Mt                 | g/t        | koz        | Mt                  | g/t        | koz        | Mt                 | g/t        | koz        | Mt           | g/t        | koz          |
| All Nations           | 0.44               | 1.6        | 22         | 0.48                | 1.2        | 19         | 0.27               | 1.1        | 10         | 1.19         | 1.3        | 50.7         |
| Anne de Vidia         | 0.18               | 1.9        | 11         | 0.39                | 1.1        | 14         | 0.21               | 1.1        | 8          | 0.78         | 1.3        | 32.5         |
| Au 81                 | 0.15               | 1.6        | 8          | 0.28                | 1.2        | 11         | 0.89               | 0.9        | 25         | 1.32         | 1.0        | 43.0         |
| Bartons               | 0.33               | 2.0        | 21         | 0.89                | 1.5        | 43         | 0.58               | 1.6        | 30         | 1.81         | 1.6        | 94.1         |
| Condor                | 0.03               | 3.7        | 4          | 0.05                | 3.3        | 5          | 0.02               | 3.1        | 2          | 0.10         | 3.4        | 11.2         |
| Crossing              |                    |            |            | 0.30                | 1.2        | 12         | 0.06               | 1.3        | 3          | 0.36         | 1.2        | 14.6         |
| Crow                  | 0.07               | 3.1        | 7          | 0.03                | 2.6        | 3          | 0.01               | 3.0        | 1          | 0.11         | 3.0        | 10.4         |
| Falcon                | 0.06               | 3.0        | 6          | 0.02                | 2.4        | 2          |                    |            |            | 0.08         | 2.9        | 7.3          |
| Gambols Hill          |                    |            |            | 0.60                | 1.5        | 29         | 0.51               | 1.3        | 21         | 1.11         | 1.4        | 50.4         |
| Golden Gate G_Reef    | 0.01               | 3.7        | 1          | 0.03                | 3.8        | 4          | 0.01               | 2.3        | 1          | 0.05         | 3.5        | 6.2          |
| Golden Eagle          | 8.30               | 1.1        | 300        | 3.67                | 1.0        | 122        | 3.85               | 1.0        | 125        | 15.82        | 1.1        | 546.3        |
| Golden Gate + Harrier | 0.18               | 2.1        | 12         | 0.12                | 2.7        | 11         | 0.03               | 1.8        | 2          | 0.33         | 2.3        | 24.6         |
| 'D' Reef              | 0.02               | 3.9        | 2          | 0.02                | 4.0        | 3          | 0.05               | 4.1        | 7          | 0.09         | 4.0        | 11.6         |
| Hut                   |                    |            |            | 0.29                | 1.2        | 11         | 0.09               | 1.0        | 3          | 0.38         | 1.1        | 13.8         |
| Junction              | 0.05               | 1.9        | 3          | 0.06                | 1.5        | 3          | 0.04               | 1.5        | 2          | 0.15         | 1.7        | 7.8          |
| Little Wonder         | 0.44               | 1.7        | 24         | 0.23                | 1.6        | 12         | 0.14               | 1.8        | 8          | 0.81         | 1.7        | 43.6         |
| Majuba Hill           |                    |            |            | 0.41                | 1.6        | 21         | 0.26               | 1.2        | 10         | 0.68         | 1.4        | 31.5         |
| Otways                | 0.69               | 1.1        | 25         | 0.76                | 1.1        | 27         | 0.54               | 1.0        | 17         | 1.99         | 1.1        | 69.4         |
| Roscoe's Reward       | 0.34               | 1.4        | 15         | 0.31                | 1.3        | 13         | 0.25               | 1.3        | 11         | 0.91         | 1.3        | 38.7         |
| Round Hill            |                    |            |            | 0.30                | 2.0        | 19         | 0.16               | 2.1        | 11         | 0.46         | 2.0        | 30.1         |
| Shearers              | 0.59               | 1.3        | 25         | 0.29                | 1.7        | 16         | 0.26               | 1.6        | 13         | 1.13         | 1.5        | 53.8         |
| <b>TOTAL</b>          | <b>11.89</b>       | <b>1.3</b> | <b>489</b> | <b>9.53</b>         | <b>1.3</b> | <b>394</b> | <b>8.24</b>        | <b>1.2</b> | <b>308</b> | <b>29.66</b> | <b>1.2</b> | <b>1,192</b> |

Source : MOY ASX announcement, 27 October 2016

### MOY upgraded its Resources estimate

In Figure 3,

- if the deposit name is red, that means it is estimated by MOY, and shows where MOY has been focussed in its drilling and resource activities;
- if the numbers are in blue, this means that the deposit is an addition to the resource;
- If the numbers are in green, that means it is higher than it was for that deposit at 31 March, and if it is in maroon, it is lower.

Figure 4 compares the Mineral Resources Estimates for MOY's Nullagine operations, of 31 March 2016 and 30 September 2016, showing the change in the 6 month period. This change is after the about 970kt of ore, containing about 47koz of gold, has been processed.

**Fig. 4a : MRE, 31 March 2016**

|              |                 |                 |                  |
|--------------|-----------------|-----------------|------------------|
| Measured     | 12.50 Mt        | 1.3 g/t         | 511 koz          |
| Indicated    | 7.53 Mt         | 1.2 g/t         | 294 koz          |
| Inferred     | 7.21 Mt         | 1.2 g/t         | 270 koz          |
| <b>TOTAL</b> | <b>27.24 Mt</b> | <b>1.23 g/t</b> | <b>1,075 koz</b> |

**Fig 4b : MRE, 30 September 2016**

|              |                 |                |                  |
|--------------|-----------------|----------------|------------------|
| Measured     | 11.9 Mt         | 1.3 g/t        | 489 koz          |
| Indicated    | 9.5 Mt          | 1.3 g/t        | 394 koz          |
| Inferred     | 8.2 Mt          | 1.2 g/t        | 308 koz          |
| <b>TOTAL</b> | <b>29.66 Mt</b> | <b>1.2 g/t</b> | <b>1,192 koz</b> |

Source : MOY's ASX announcements, 26 April 2016 and 27 October 2016, Beer & Co

Overall, the revised estimate

- Has more tonnes, at 29.66Mt, up 2.4Mt or 8.9%, for a total addition of 3.4Mt, or 12.5% ,prior to mining depletion; and
- Now has 116koz more contained gold, up 10.8%, for a total addition of 163koz or 15.2% prior to mining depletion.

Despite mining depletion, both tonnes and grade are up

While the grade appears the same, it must be slightly higher as ounces increased by more than tonnes.

## Reserves

Same for Reserves

Figure 5 shows MOY's upgraded Ore reserve estimate for Nullagine, showing :

More tonnes at a slightly higher grade

- Bartons has been depleted;
- New reserves at Hut, Gambols Hill, Crossing and Majuba Hill, none of which had any Resources at 31 March;
- Reserves have increased at 5 of the deposits for which MOY reported reserves at 31 March.

**Figure 5 : Revised Ore Reserves Estimate, MOY's Nullagine**

| Deposit         | Proven Reserves |            |            | Probable Reserves |            |           | TOTAL        |            |            |
|-----------------|-----------------|------------|------------|-------------------|------------|-----------|--------------|------------|------------|
|                 | kt              | g/t        | koz        | kt                | g/t        | koz       | kt           | g/t        | koz        |
| Shearers        | 176             | 1.7        | 10         | 4                 | 2.9        | 0         | 180          | 1.7        | 10.1       |
| Otways          | 262             | 1.1        | 10         | 59                | 1.1        | 2         | 321          | 1.1        | 11.7       |
| Little Wonder   | 264             | 1.7        | 14         | 47                | 1.9        | 3         | 311          | 1.7        | 17.2       |
| Majuba Hill     |                 |            |            | 299               | 1.6        | 16        | 299          | 1.6        | 15.7       |
| Anne de Vidia   | 100             | 1.9        | 6          | 45                | 1.4        | 2         | 145          | 1.8        | 8.3        |
| All Nations     | 304             | 1.5        | 14         | 79                | 1.4        | 4         | 384          | 1.4        | 17.8       |
| Crossing        |                 |            |            | 93                | 1.2        | 4         | 93           | 1.2        | 3.5        |
| Round Hill      |                 |            |            | 108               | 2.7        | 9         | 108          | 2.7        | 9.4        |
| Gambols Hill    |                 |            |            | 128               | 2.0        | 8         | 128          | 2.0        | 8.2        |
| Hut             |                 |            |            | 116               | 1.2        | 4         | 116          | 1.2        | 4.3        |
| Junction        | 27              | 2.6        | 2          | 2                 | 1.5        | 0         | 28           | 2.5        | 2.3        |
| Roscoe's Reward | 131             | 1.4        | 6          | 13                | 1.6        | 1         | 143          | 1.4        | 6.5        |
| Golden Eagle    | 1,009           | 1.6        | 51         | 20                | 1.4        | 1         | 1,030        | 1.6        | 51.4       |
| Bartons         |                 |            |            |                   |            |           |              |            |            |
| ROM stocks      | 669             | 0.8        | 18         |                   |            |           | 669          | 0.8        | 17.6       |
| <b>TOTAL</b>    | <b>2,942</b>    | <b>1.4</b> | <b>130</b> | <b>1,011</b>      | <b>1.7</b> | <b>54</b> | <b>3,953</b> | <b>1.4</b> | <b>184</b> |

Source : MOY ASX announcement, 27 October 2016

Figure 6 shows a summary comparison between MOY's Reserve estimates for 31 March and 30 September.

**Fig. 6a : ORE, 31 March 2016**

|              |                |                 |                |
|--------------|----------------|-----------------|----------------|
| Proved       | 2.53 Mt        | 1.5 g/t         | 121 koz        |
| Probable     | 0.38 Mt        | 1.8 g/t         | 21 koz         |
| Stockpiles   | 0.62 Mt        | 0.9 g/t         | 18 koz         |
| <b>TOTAL</b> | <b>3.52 Mt</b> | <b>1.40 g/t</b> | <b>160 koz</b> |

**Fig 6b : ORE, 30 September 2016**

|              |                 |                 |                |
|--------------|-----------------|-----------------|----------------|
| Proved       | 2,272 kt        | 1.4 g/t         | 113 koz        |
| Probable     | 1,011 kt        | 1.7 g/t         | 54 koz         |
| Stockpiles   | 669 kt          | 0.8 g/t         | 18 koz         |
| <b>TOTAL</b> | <b>3,953 kt</b> | <b>1.45 g/t</b> | <b>184 koz</b> |

Source : MOY's ASX announcements, 26 April 2016 and 27 October 2016, Beer & Co

Excluding low grade stockpiles, average reserve grade is now 1.58g/t, compared with 1.51g/t at 31 March.

### Further Drill Success

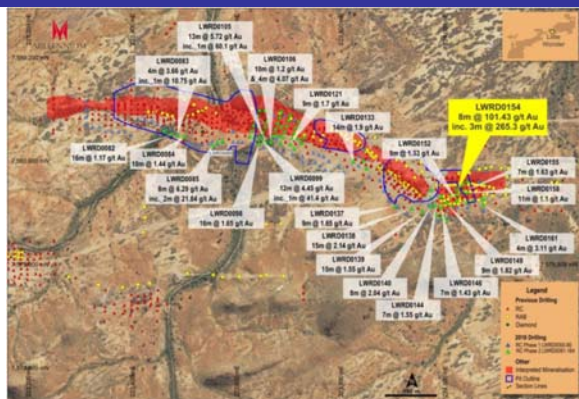
MOY has had further success with drilling

With some very good grades

On 12 September, MOY announced results from drilling at 5 different operating sites at Nullagine, each near a mining operation. Each of the sites reported wide, shallow, high-grade intercepts.

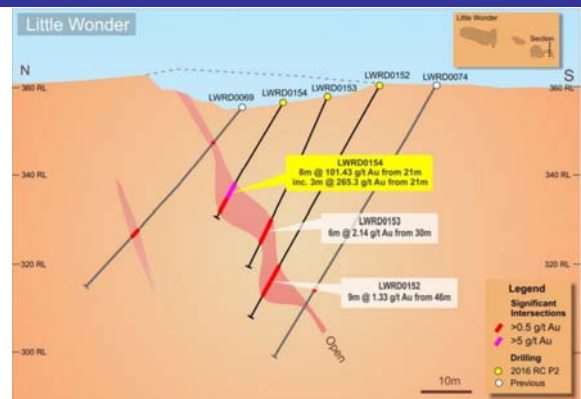
- Little Wonder : 25km from the plant, as shown in Figures 7 and 8
  - 8m at 101.4g/t gold, from 21m below surface;
  - 13m at 5.7g/t gold, from 35m;
  - 12m at 4.45g/t gold, from 34m; and
  - 8m at 6.29g/t gold, from 52m.
- Gambols Hill : 10km from the plant
  - 3m at 21.08g/t gold, from 8m below surface; and
  - 7m at 4.36g/t gold, from 50m.
- Roscoes Reward : 25km from the plant :
  - 16m at 2.82g/t gold, from 35m below surface;
  - 6m at 3.22g/t gold, from 45m
- Crossing : 8km from plant :
  - 2m at 47.69g/t, from 41m below surface
  - 7m at 5.75g/t gold, from 30m.

Figure 7 : Plan of drilling at Little Wonder



Source : MOY ASX announcement, 12 September 2016

Figure 8 : Section, Little Wonder



Source : MOY ASX announcement, 12 September 2016

Good intercepts more than 100m below surface show good continuity in the mineralised structures

Metallurgical testwork is being done on this material

On 27 October 2016, MOY reported results from deeper drilling at Nullagine, though mostly still to open cut depths. Results included :

- 17.2 m @ 3.86 g/t gold from 147.5m, at Shearer’s
- 12.0 m @ 8.96 g/t gold from 105m at ABC Reef
- 12.0 m @ 4.67 g/t gold from 125m at ABC Reef
- 5.0 m @ 3.36 g/t gold from 139m at ABC Reef
- 16.8 m @ 4.09 g/t gold from 81.2m at D Reef; and
- 9.0 m @ 6.63 g/t gold from 1042m at D Reef.

This material is being tested to determine the recoveries that can be expected from the existing oxide circuit.

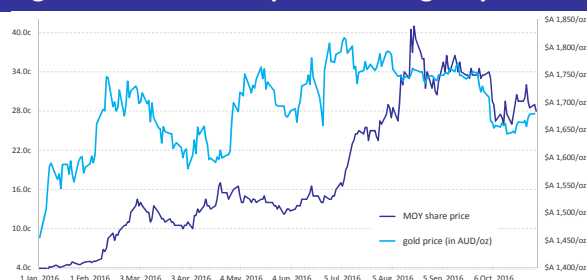
## Revised Valuation

MOY share price now matches the gold price

### MOY share price v gold price

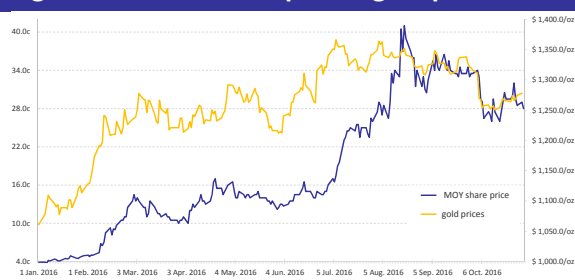
The AUD-USD rate has moved in a fairly tight band around 0.750 since March, which is why Figure 9 and Figure 10 show the same pattern, of MOY share price moving with the gold price, especially since August.

Figure 9 : MOY share price v AUD gold price



Source : IRESS, Beer & Co

Figure 10 : MOY share price v gold price



Source : IRESS, Beer & Co

### Risked, base case valuation

Figure 11 shows the detail of Beer & Co's risked, base case valuation of MOY.

It shows that, while MOY now has about 2 years of reserves, about half of the valuation comes from Beer & Co's assumption from the returns on MOY's projected exploration expenditure.

Beer & Co's risked base case valuation is now 30.5c/share.

Around half of this valuation comes from Beer & Co's expectation of further drill success

Figure 11 : Beer & Co's revised valuation of MOY

| VALUATION              |        |                  |                |               |               |
|------------------------|--------|------------------|----------------|---------------|---------------|
| discount rate = 12.0 % |        | 31 December 2015 |                | 30-Oct-16     |               |
|                        | risk : | 100%             | Product        | per share     |               |
| Nullagine Reserves     | 100%   | \$ 110m          | \$ 110m        | 13.5 c        | 9.2 c         |
| franking credits       | 60%    | \$ 10m           | \$ 6m          | 0.8 c         | 0.8 c         |
| Nullagine Extensions   | 80%    | \$ 152m          | \$ 121m        | 14.9 c        | 16.4 c        |
| franking credits       | 48%    | \$ 55m           | \$ 26m         | 3.2 c         | 3.5 c         |
| Exploration            | 100%   | (\$ 52m)         | \$ 0m          | 0.0 c         | 0.0 c         |
| Hedge                  | 100%   | (\$ 6m)          | (\$ 6m)        | (0.7c)        | (0.1c)        |
| Corporate              | 100%   | (\$ 29m)         | (\$ 29m)       | (3.5c)        | (3.3c)        |
| Cash / Debt            | 100%   | \$ 8m            | \$ 8m          | 0.9 c         | 3.7 c         |
| Equity raisings        | 100%   | \$ 2m            | \$ 2m          | 0.2 c         | 0.2 c         |
| <b>TOTAL</b>           |        | <b>\$ 249m</b>   | <b>\$ 238m</b> | <b>29.3 c</b> | <b>30.4 c</b> |
| Shares on issue        |        | 742.7m           | F P O shares   | 34.1m         | Options       |
|                        |        | 38.2m            | issued later   | 34.1m         | Ops. Ex'd     |

Source : Beer & Co estimates

### Analysis

Over the 6 months from 31 March to 30 September, MOY has shown :

- In-ground Reserves now grade 1.58g/t, up from 1.51g/t after only 6 months of drilling, plus depletion;
- Reserves have increased by 1.4Mt, prior to depletion of 970kt; and
- Reserves have increased by 72koz, prior to depletion.

MOY's operational results over the last 6 months support the basis of Beer & Co's risked valuation

The total investment to achieve this has been \$6.85m , or

- \$A 95/oz; or
- \$A 4.88/t.

This lends very strong support to the central thesis of Beer & Co's valuation that by investing \$10m, MOY will delineate 2.0Mt of Reserves each year (ie. \$5.0/t, or 2.5% higher than achieved).

Beer & Co's revised valuation assumes a grade of 1.6g/t, consistent with the trend shown in MOY's latest Reserves estimate.

## Sensitivity Analysis

As shown in Figures 9 and 10, any view of valuation depends largely on a view of the gold price.

Beer & Co's valuation is sensitive to grade and gold price

Figure 12 shows the sensitivity of Beer & Co's risked valuation to changes in the 2 key parameters of gold price and future discovered grade.

**Figure 12 : Sensitivity of Beer & Co's value**

|                      | 1.50 g/t | <b>1.60 g/t</b> | 1.70 g/t |
|----------------------|----------|-----------------|----------|
| US\$ 1,250/oz        | 24.1 c   | 27.4 c          | 30.7 c   |
| <b>US\$ 1,300/oz</b> | 27.0 c   | <b>30.4 c</b>   | 33.8 c   |
| US\$ 1,350/oz        | 29.9 c   | 33.4 c          | 37.0 c   |

Source : Beer & Co estimates

## Conclusions

Beer & Co affirms our Accumulate recommendation

Beer & Co is positive on the gold price; we expect that the long run price will be higher than USD 1300/oz (or AUD 1733/oz, compared with AUD 1680 as at close on Monday, 31 October), but we do not base our valuation and recommendation on this expectation.

Beer & Co is very positive on the exploration potential at Nullagine. We have assumed only 7 more successful years, but we expect it will be many more.

Beer & Co's risked base case valuation is a small premium to current share price.

Beer & Co affirms our Accumulate recommendation, High Risk.



**Beer & Co Research**

Millennium Minerals (MOY.ASX)

October 2016

| Year ended December        | 2014  | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | 2021       |
|----------------------------|-------|------------|------------|------------|------------|------------|------------|------------|
| <b>Section 1 - P&amp;L</b> |       |            |            |            |            |            |            |            |
| Sales revenue              | \$A m | 107        | 142        | 149        | 157        | 157        | 164        | 164        |
| Interest revenue           | \$A m | 0          | 0          | 0          | 1          | 1          | 2          | 3          |
| Other revenue              | \$A m | 9          | 0          | 0          | 0          | 0          | 0          | 0          |
| <b>Total Revenue</b>       | \$A m | <b>116</b> | <b>142</b> | <b>149</b> | <b>157</b> | <b>159</b> | <b>166</b> | <b>167</b> |

|                                 |       |              |              |              |             |             |             |             |
|---------------------------------|-------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|
| Cost of Goods Sold              | \$A m | (88)         | (86)         | (87)         | (85)        | (84)        | (85)        | (86)        |
| Royalties                       |       | (4)          | (4)          | (4)          | (5)         | (5)         | (5)         | (5)         |
| Corporate Costs                 | \$A m | (5)          | (5)          | (4)          | (5)         | (5)         | (5)         | (5)         |
| Exploration Expense             | \$A m | 0            | 0            | 0            | 0           | 0           | 0           | 0           |
| Other Operating Expenses        | \$A m | (17)         | (5)          | (6)          | 0           | 0           | 0           | 0           |
| <b>Total Operating Expenses</b> | \$A m | <b>(114)</b> | <b>(100)</b> | <b>(102)</b> | <b>(95)</b> | <b>(95)</b> | <b>(95)</b> | <b>(96)</b> |

|                       |       |             |           |           |           |           |           |           |
|-----------------------|-------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>EBITDA</b>         | \$A m | <b>2</b>    | <b>42</b> | <b>47</b> | <b>62</b> | <b>64</b> | <b>71</b> | <b>71</b> |
| Dep'cn & Amort'sn     | \$A m | (27)        | (23)      | (35)      | (8)       | (11)      | (12)      | (13)      |
| <b>EBIT</b>           | \$A m | <b>(25)</b> | <b>19</b> | <b>12</b> | <b>54</b> | <b>53</b> | <b>59</b> | <b>58</b> |
| Interest Expense      | \$A m | (5)         | (3)       | 0         | 0         | 0         | 0         | 0         |
| Other                 | \$A m | (1)         | 0         | 0         | 0         | 0         | 0         | 0         |
| <b>Pre-Tax Profit</b> | \$A m | <b>(31)</b> | <b>16</b> | <b>12</b> | <b>54</b> | <b>53</b> | <b>59</b> | <b>58</b> |
| Tax Expense           | \$A m | (12)        | (5)       | (4)       | (16)      | (16)      | (18)      | (17)      |
| <b>NPAT</b>           | \$A m | <b>(43)</b> | <b>11</b> | <b>8</b>  | <b>38</b> | <b>37</b> | <b>41</b> | <b>40</b> |

**Section 2 - Key Data**

|                               |       |        |       |       |       |       |       |       |
|-------------------------------|-------|--------|-------|-------|-------|-------|-------|-------|
| Ordinary shares - year end    | m     | 217.7  | 742.7 | 780.9 | 780.9 | 780.9 | 815.0 | 815.0 |
| Fully diluted shares on issue | m     | 217.7  | 742.7 | 780.9 | 780.9 | 780.9 | 815.0 | 815.0 |
| Weighted # shares             | m     | 217.7  | 252.2 | 761.8 | 780.9 | 780.9 | 789.4 | 815.0 |
| Earnings per Share            |       | (5.9c) | 4.5 c | 1.1 c | 4.8 c | 4.8 c | 5.2 c | 5.0 c |
| Dividends Per Share           | 0.0 c | 0.0 c  | 0.0 c | 0.0 c | 0.0 c | 0.0 c | 0.0 c | 0.0 c |

**Section 3 - Balance Sheet**

|                       |       |           |           |           |            |            |            |            |
|-----------------------|-------|-----------|-----------|-----------|------------|------------|------------|------------|
| Cash                  | \$A m | 2         | 11        | 34        | 73         | 104        | 136        | 165        |
| Receivables           | \$A m | 2         | 10        | 12        | 12         | 12         | 12         | 12         |
| Inventory             | \$A m | 17        | 13        | 14        | 13         | 14         | 14         | 14         |
| Other                 | \$A m | 2         | 2         | 2         | 2          | 2          | 2          | 2          |
| <b>CURRENT ASSETS</b> | \$A m | <b>23</b> | <b>38</b> | <b>63</b> | <b>100</b> | <b>132</b> | <b>164</b> | <b>194</b> |

|                                 |       |           |           |           |            |            |            |            |
|---------------------------------|-------|-----------|-----------|-----------|------------|------------|------------|------------|
| Receivables                     | \$A m | 0         | 0         | 0         | 0          | 0          | 0          | 0          |
| P, P & E                        | \$A m | 43        | 27        | 6         | 7          | 7          | 7          | 7          |
| Mining Properties / Exploration | \$A m | 8         | 6         | 6         | 11         | 14         | 16         | 17         |
| Other                           | \$A m | 0         | 0         | 0         | 0          | 0          | 0          | 0          |
| <b>NON-CURRENT ASSETS</b>       | \$A m | <b>51</b> | <b>34</b> | <b>13</b> | <b>18</b>  | <b>21</b>  | <b>23</b>  | <b>24</b>  |
| <b>TOTAL ASSETS</b>             | \$A m | <b>74</b> | <b>71</b> | <b>75</b> | <b>119</b> | <b>153</b> | <b>187</b> | <b>218</b> |

|                            |       |           |           |          |          |          |          |          |
|----------------------------|-------|-----------|-----------|----------|----------|----------|----------|----------|
| Payables                   | \$A m | 16        | 7         | 7        | 7        | 7        | 7        | 7        |
| Debt                       | \$A m | 20        | 4         | 0        | 0        | 0        | 0        | 0        |
| Other                      | \$A m | 1         | 0         | 0        | 0        | 0        | 0        | 0        |
| <b>CURRENT LIABILITIES</b> | \$A m | <b>36</b> | <b>10</b> | <b>7</b> | <b>7</b> | <b>7</b> | <b>7</b> | <b>7</b> |

|                                |       |           |           |           |            |            |            |            |
|--------------------------------|-------|-----------|-----------|-----------|------------|------------|------------|------------|
| Long Term Debt                 | \$A m | 17        | 0         | 0         | 0          | 0          | 0          | 0          |
| Other                          | \$A m | 2         | 2         | 2         | 2          | 2          | 2          | 2          |
| Provisions                     | \$A m | 6         | 6         | 6         | 6          | 6          | 6          | 6          |
| <b>NON-CURRENT LIABILITIES</b> | \$A m | <b>26</b> | <b>8</b>  | <b>8</b>  | <b>8</b>   | <b>8</b>   | <b>8</b>   | <b>8</b>   |
| <b>TOTAL LIABILITIES</b>       | \$A m | <b>62</b> | <b>19</b> | <b>15</b> | <b>15</b>  | <b>15</b>  | <b>15</b>  | <b>15</b>  |
| <b>NET ASSETS</b>              | \$A m | <b>12</b> | <b>53</b> | <b>60</b> | <b>104</b> | <b>138</b> | <b>172</b> | <b>202</b> |

|                           |       |           |           |           |            |            |            |            |
|---------------------------|-------|-----------|-----------|-----------|------------|------------|------------|------------|
| Accumulated Profit (Loss) | \$A m | (135)     | (123)     | (115)     | (77)       | (40)       | 1          | 42         |
| Reserves                  | \$A m | 3         | 11        | 10        | 16         | 13         | 6          | (4)        |
| Contributed Equity        | \$A m | 144       | 165       | 165       | 165        | 165        | 165        | 165        |
| <b>Total Equity</b>       | \$A m | <b>12</b> | <b>53</b> | <b>60</b> | <b>104</b> | <b>138</b> | <b>172</b> | <b>202</b> |

**Section 4 - Cashflow**

|                              |       |          |           |           |           |           |           |           |
|------------------------------|-------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Net Cashflow from operations | \$A m | 19       | 47        | 54        | 62        | 64        | 71        | 71        |
| Hedging                      | \$A m | (6)      | 0         | 0         | 0         | 0         | 0         | 0         |
| Interest Paid                | \$A m | (5)      | (3)       | 0         | 1         | 1         | 2         | 3         |
| Taxes Paid                   | \$A m | 0        | 0         | 0         | 0         | (9)       | (18)      | (17)      |
| Change in Working Capital    | \$A m | (4)      | (17)      | (1)       | (1)       | (0)       | 0         | 0         |
| Other                        | \$A m |          |           |           |           |           |           |           |
| <b>OPERATING CASHFLOW</b>    | \$A m | <b>4</b> | <b>27</b> | <b>53</b> | <b>63</b> | <b>55</b> | <b>56</b> | <b>56</b> |

|                                       |       |            |            |             |             |             |             |             |
|---------------------------------------|-------|------------|------------|-------------|-------------|-------------|-------------|-------------|
| Exploration Expenditures              | \$A m | 0          | (2)        | (11)        | (10)        | (10)        | (10)        | (10)        |
| Maintenance Capex                     | \$A m | (3)        | (4)        | (4)         | (4)         | (4)         | (4)         | (4)         |
| Expansion Capex                       | \$A m | 0          | 0          | 0           | 0           | 0           | 0           | 0           |
| <b>PPE Acquisitions (Total Capex)</b> | \$A m | <b>(3)</b> | <b>(6)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> |
| PPE Divestments                       | \$A m | 0          | 0          | 0           | 0           | 0           | 0           | 0           |
| <b>INVESTING CASHFLOW</b>             | \$A m | <b>(3)</b> | <b>(6)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> | <b>(14)</b> |

|                           |       |            |             |            |          |          |          |          |
|---------------------------|-------|------------|-------------|------------|----------|----------|----------|----------|
| Change in Equity          | \$A m | 0          | 21          | 0          | 0        | 0        | 3        | 0        |
| Dividends Paid            | \$A m | 0          | 0           | 0          | 0        | 0        | 0        | 0        |
| Change in Debt            | \$A m | (2)        | (34)        | (4)        | 0        | 0        | 0        | 0        |
| <b>FINANCING CASHFLOW</b> | \$A m | <b>(2)</b> | <b>(13)</b> | <b>(4)</b> | <b>0</b> | <b>0</b> | <b>3</b> | <b>0</b> |

|                      |       |            |           |           |           |           |           |           |
|----------------------|-------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Free Cashflow</b> | \$A m | <b>1</b>   | <b>21</b> | <b>39</b> | <b>49</b> | <b>41</b> | <b>41</b> | <b>42</b> |
| <b>Net Cashflow</b>  | \$A m | <b>(1)</b> | <b>9</b>  | <b>35</b> | <b>49</b> | <b>41</b> | <b>44</b> | <b>42</b> |

**Commodity price assumptions**

| Year ended December | 2015      | 2016  | 2017  | 2018  | 2019  | 2020  |
|---------------------|-----------|-------|-------|-------|-------|-------|
| AUD-USD             | 0.753     | 0.739 | 0.750 | 0.750 | 0.750 | 0.750 |
| Gold                | US\$ / oz | 1,160 | 1,266 | 1,300 | 1,300 | 1,300 |
|                     | AUD / oz  | 1,541 | 1,713 | 1,733 | 1,733 | 1,733 |

**Mine Production**

| <b>Nullagine</b>       |  |          |          |          |          |          |
|------------------------|--|----------|----------|----------|----------|----------|
| Ore processed '000t    |  | 1,824    | 1,977    | 2,000    | 2,000    | 2,000    |
| Gold grade             |  | 1.78 g/t | 1.48 g/t | 1.53 g/t | 1.53 g/t | 1.60 g/t |
| Gold produced (ounces) |  | 91,462   | 88,130   | 90,291   | 90,734   | 94,662   |

**Resources, 30 September 2016**

| Deposit             | Measured       |                | Indicated     |                | Inferred      |                | Gold             |
|---------------------|----------------|----------------|---------------|----------------|---------------|----------------|------------------|
|                     | Mt             | g/t            | Mt            | g/t            | Mt            | g/t            |                  |
| All Nations         | 0.4            | 1.6            | 0.5           | 1.2            | 0.3           | 1.1            | 51 koz           |
| Anne de Vidia       | 0.2            | 1.9            | 0.4           | 1.1            | 0.2           | 1.1            | 33 koz           |
| Au 81               | 0.2            | 1.6            | 0.3           | 1.2            | 0.9           | 0.9            | 43 koz           |
| Bartons             | 0.3            | 2.0            | 0.9           | 1.5            | 0.6           | 1.6            | 94 koz           |
| Condor              | 0.0            | 3.7            | 0.1           | 3.3            | 0.0           | 3.1            | 11 koz           |
| Crossing            | 0.0            | 0.0            | 0.3           | 1.2            | 0.1           | 1.3            | 15 koz           |
| Crow                | 0.1            | 3.1            | 0.0           | 2.6            | 0.0           | 3.0            | 10 koz           |
| Falcon              | 0.1            | 3.0            | 0.0           | 2.4            | 0.0           | 0.0            | 7 koz            |
| Gambols Hill        | 0.0            | 0.0            | 0.6           | 1.5            | 0.5           | 1.3            | 50 koz           |
| Golden Gate G. Ree  | 0.0            | 3.7            | 0.0           | 3.8            | 0.0           | 2.3            | 6 koz            |
| Golden Eagle        | 8.3            | 1.1            | 3.7           | 1.0            | 3.9           | 1.0            | 546 koz          |
| Golden Gate + Harri | 0.2            | 2.1            | 0.1           | 2.7            | 0.0           | 1.8            | 25 koz           |
| 'D' Reef            | 0.0            | 3.9            | 0.0           | 4.0            | 0.1           | 4.1            | 12 koz           |
| Hut                 | 0.0            | 0.0            | 0.3           | 1.2            | 0.1           | 1.0            | 14 koz           |
| Junction            | 0.0            | 1.9            | 0.1           | 1.5            | 0.0           | 1.5            | 8 koz            |
| Little Wonder       | 0.4            | 1.7            | 0.2           | 1.6            | 0.1           | 1.8            | 44 koz           |
| Majuba Hill         | 0.0            | 0.0            | 0.4           | 1.6            | 0.3           | 1.2            | 32 koz           |
| Otway's             | 0.7            | 1.1            | 0.8           | 1.1            | 0.5           | 1.0            | 69 koz           |
| Roscoe's Reward     | 0.3            | 1.4            | 0.3           | 1.3            | 0.3           | 1.3            | 39 koz           |
| Round Hill          | 0.0            | 0.0            | 0.3           | 2.0            | 0.2           | 2.1            | 30 koz           |
| Shearers            | 0.6            | 1.3            | 0.3           | 1.7            | 0.3           | 1.6            | 54 koz           |
| <b>TOTAL</b>        | <b>11.9 Mt</b> | <b>1.3 g/t</b> | <b>9.5 Mt</b> | <b>1.3 g/t</b> | <b>8.2 Mt</b> | <b>1.2 g/t</b> | <b>1,192 koz</b> |

**Reserves, as at 30 September 2016**

|              |               |                 |                |
|--------------|---------------|-----------------|----------------|
| Proved       | 2.3 Mt        | 1.5 g/t         | 113 koz        |
| Probable     | 1.0 Mt        | 1.7 g/t         | 54 koz         |
| Stockpiles   | 0.7 Mt        | 0.8 g/t         | 18 koz         |
| <b>TOTAL</b> | <b>4.0 Mt</b> | <b>1.45 g/t</b> | <b>184 koz</b> |

**Costs, AUD / oz**

|                       | LoM          | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>C 1 cash costs</b> | <b>945</b>   | <b>944</b>   | <b>984</b>   | <b>944</b>   | <b>928</b>   | <b>898</b>   | <b>905</b>   |
| <b>All-In</b>         | <b>1,167</b> | <b>1,101</b> | <b>1,250</b> | <b>1,203</b> | <b>1,185</b> | <b>1,147</b> | <b>1,154</b> |

**Asset based Valuation**

| discount rate = 12 % | risk :           | 31 December 2015 |                |               | 29-Oct-16     |
|----------------------|------------------|------------------|----------------|---------------|---------------|
|                      |                  | 100%             | Product        | per share     |               |
| Nullagine Reserves   | 100%             | \$ 110m          | \$ 110m        | 13.5 c        | 9.2 c         |
|                      | franking credits | 60%              | \$ 10m         | \$ 6m         | 0.8 c         |
| Nullagine Extensions | 80%              | \$ 152m          | \$ 121m        | 14.9 c        | 16.4 c        |
|                      | franking credits | 48%              | \$ 55m         | \$ 26m        | 3.2 c         |
| Exploration          | 100%             | (\$ 52m)         | \$ 0m          | 0.0 c         | 0.0 c         |
| Hedge                | 100%             | (\$ 6m)          | (\$ 6m)        | (0.7c)        | (0.1c)        |
| Corporate            | 100%             | (\$ 29m)         | (\$ 29m)       | (3.5c)        | (3.4c)        |
| Cash / Debt          | 100%             | \$ 8m            | \$ 8m          | 0.9 c         | 3.7 c         |
| Equity raisings      | 100%             | \$ 2m            | \$ 2m          | 0.2 c         | 0.2 c         |
| <b>TOTAL</b>         |                  | <b>\$ 249m</b>   | <b>\$ 238m</b> | <b>29.3 c</b> | <b>30.4 c</b> |
| Shares on issue      |                  | 742.7m           | F P O shares   | 34.1m         | Options       |
|                      |                  | 38.2m            | issued later   | 34.1m         | Ops. Ex'd     |

**Financial Ratios**

| Year ended December | 2014  | 2015   | 2016  | 2017  | 2018  | 2019  |
|---------------------|-------|--------|-------|-------|-------|-------|
| Revenue             | \$A m | 116    | 142   | 149   | 157   | 159   |
| EBITDA              | \$A m | 2      | 42    | 47    | 62    | 64    |
| EBIT                | \$A m | (25)   | 19    | 12    | 54    | 53    |
| NPAT (reported)     | \$A m | (43)   | 11    | 8     | 38    | 37    |
| Adjusted EPS (cps)  |       | (5.9c) | 4.5 c | 1.1 c | 4.8 c | 4.8 c |
| EPS Growth (%)      |       |        |       | (76%) | 335 % | (2%)  |
| DPS (c)             |       | 0.0 c  | 0.0 c | 0.0 c | 0.0 c | 0.0 c |
| Dividend Yield (%)  |       | 0 %    | 0 %   | 0 %   | 0 %   | 0 %   |
| PE adj. (x)         |       | x      | (0.6) | 6.3   | 25.6  | 5.9   |
| EV / EBITDA (x)     |       | x      | 19.4  | 4.9   | 4.0   | 2.4   |
| EV / EBIT (x)       |       | x      | (1.7) | 10.7  | 15.7  | 2.8   |
| Gearing (%)         |       |        |       |       |       |       |



## Important Information

### **Confidential**

This document is for the confidential use of the recipients only and is not to be reproduced without the authority of Beer & Co Pty Ltd.

### **Disclaimer**

The persons involved in or responsible for the preparation and publication of this report believe that the information herein has been obtained from reliable sources and that any estimates, opinions, conclusions or recommendations are reasonably held at the time of compilation. No warranty is made as to the accuracy of the information in this document and, to the maximum extent permitted by law, Beer & Co Pty Ltd and its related entities, their respective directors and officers disclaim all liability for any loss or damage which may be suffered by any recipient through relying on anything contained or omitted from this document.

### **General Advice**

The content is of a general nature and is based on a consideration of the securities alone, and as such is conditional and must not be relied upon without advice from a securities adviser as to the appropriateness to you given your individual investment objectives, financial situation and particular needs. Whilst this document is based on information and assessments that are current at the date of publication, Beer & Co Pty Ltd has not undertaken detailed due diligence on the information provided. Circumstances may change and Beer & Co has no obligation to provide revised assessments when circumstances change.

### **Disclosure**

Beer & Co Pty Ltd has been engaged by Millennium Minerals Limited to prepare this research report and is being paid a fee for its preparation. Beer & Co Pty Ltd seeks to do work with those companies it researches. Beer & Co Pty Ltd may provide capital raising services to Millennium Minerals Limited on commercial terms. Directors of Beer & Co or other associate companies may own securities in Millennium Minerals Limited. As a result, investors should be aware that Beer & Co Pty Ltd may have a conflict of interest that could affect the objectivity of this report.

### **Analyst Certification**

The analyst responsible for this research report certifies that all of the views expressed reflect his personal views about the securities and the issuer.

Report prepared by : Pieter Bruinstroop [pbruinstroop@beerandco.com.au](mailto:pbruinstroop@beerandco.com.au)

### **Beer & Co Recommendation**

Beer & Co provide general recommendations only and do not consider the specific interests of the recipient of this report. Beer & Co generally provides a 2 part recommendation and both need to be considered together.

**Recommendation :** Beer & Co's investment recommendation is driven by the difference between our base case, risked valuation and the share price at the time. A Strong BUY recommendation means a very large difference (eg. over 100%), while BUY means a significant difference and Accumulate means a small, but positive difference. The recommendation is not independent of the uncertainty in Beer & Co's valuation.

**Risk :** Risk relates to the potential, over the long run, for an investor to lose money; it is a function of both the difference between our base case valuation and the uncertainty in our valuation due to the degree of estimation and/or uncertainties about project execution. Speculative means a high chance of loss; High risk means a good chance of loss and medium means some chance of loss, given the company size.

---

Beer & Co Pty Ltd,  
ABN 88 158 837 186,  
**Authorised Representative of**  
**Melbourne Venture Securities Pty Ltd**  
**AFSL No. 224 313**

Suite 4, Level 2,  
Bank House  
11 - 19 Bank Place  
Melbourne, Vic,  
Australia 3000

Tel : (+613) 9600 3599  
Fax : (+613) 9602 2291  
e : [info@beerandco.com.au](mailto:info@beerandco.com.au)  
W : [www.beerandco.com.au](http://www.beerandco.com.au)

---