

# **Carbine Resources Ltd**

## **UPDATE**

## Production on the horizon

#### **Overview**

Carbine Resources and their Mount Morgan gold/copper tailings retreatment project has the potential to become one of the lowest cost gold producers in Australia when production commences next year.

Carbine released a positive Pre-Feasibility Study (PFS) last year, with the key highlights including *All-in-sustaining Costs (AISC)* of *US\$234/oz and initial capital costs of \$63.3m.* A Definitive Feasibility Study (DFS) is due by the middle of 2016.

The PFS assumed more than 50,000oz of gold would be produced during the first year of production, and an average of more than 58,000oz Au eq. per annum for the first three years of production (LOM production – 46,500koz Au eq.).

The project has a current mine life of eight year and will produce three separate saleable products, *gold* (31,200ozpa), copper sulphate (3,200tpa) and pyrite concentrate (211,000tpa). A drill program recently commenced aimed at extending the mine life.

The historical Mount Morgan operation, was one of Australia most profitable mines, however closed due to a falling gold price and high operating costs due to metallurgical issues. Since the closure, metallurgical technology has advanced and Carbine believes they have unlocked the significant value that still exists at Mount Morgan, through a *commonly used technology called Ion Exchange* — which is used on numerous mining operations throughout the world today, including Rio Tinto and Barrick Gold operations.

## **Catalysts**

- Drilling delineation reserves and expand resource commenced
- Definitive Feasibility Study mid 2016
- Project Finance 2H16;
- Decision to mine/commence construction 2H16; and
- First production mid 2017.

#### **Investment View**

Carbine has come a long way in the past 12 months as they completed an impressive PFS, agreed offtake terms for their copper sulphate and pyrite production as well as a new major shareholder joined the register (GR Engineering - completed the PFS).

However there is no slowdown in the year ahead as a DFS will be released by the middle of the year and an announcements regarding project financing and a decision to mine will follow (TSI estimate - 2H16) before production commences next year.

We value Carbine at \$0.40 per share, however believe this valuation could increase up to \$0.58 per share provided there is relief on the state royalty and the mine life is extended to 10 years (TSI assumption - 7yrs).

# **Mining - Development**

## March 2016

Share Price	A\$0.18
Value per share	A\$0.40
Implied Return	122%

## **Company Information**

ASX Code	CRB
Ord Shares	152.5M
Options	28.0M
Market Cap	A\$27.5M
Cash (Jan 16)	A\$3.0M
Total Debt (Dec 15)	A\$0.0M

## **Board & Management**

Patrick Walta	ED
Evan Cranston	NED
Tom Bahen	NED
Steve Dobson	NED

## **Substantial Shareholders**

Board & related parties	22.0%
GR Engineering	8.2%

## **Share Price**

52 week High	A\$0.18
52 week Low	A\$0.04
3m avg dail vol	324k
3m avg daily value	A\$40k

## Video Analysis





ompany Ticker				CRB.ASX	Resources    Cash - TSI Estimate (A\$)				3.0
					1				
hares on issue - current (m)				152.5	Debt (A\$)				0.0
hare Price (A\$)				0.180	EV (A\$m)				24.5
larket Cap (A\$m)				27.5	Valuation/share (\$A)				0.40
dustry				Mining - Gold	Intrinsic Value - TSI (A\$m)				127.5
age of Development				PFS	Implied Return (%)				122%
roject Location				QLD, Australia	P/NAV (x)				0.45
0,000.2000.00.				Q25) / tuber unu	. 7 ()				0.15
ar end: 31 December									
aluation	Disc' rate	Ownership	Val (A\$m)	Val / sh (A\$ )*	Price Assumptions	2016	2017	2018	2019
t Morgan - Base case	10%	100%	\$101.2	\$0.32	Gold (A\$ / oz)	\$1,655	\$1,655	\$1,655	\$1,655
npaid cap. & new equity			\$23.3	\$0.07	Copper - (A\$/ t)	\$6,521	\$6,521	\$6,521	\$6,52
rrent Cash			\$3.0	\$0.01	Pyrite - (A\$/t)	\$85	\$85	\$85	\$85
tal NAV			\$127.5	\$0.40	FX (A\$:USD\$)	\$0.71	\$0.71	\$0.71	\$0.71
Fully diluted for options & proj	ect development			316.5 M shares		·			
Inclusive of tax & corporate co	osts				Production Profile	2016	2017	2018	2019
					Tonnes Processed (Mt pa )	0.00	0.50	1.00	1.00
70					Grade processed - Au (g/t)	0.00	2.30	1.93	1.50
					Gold Produced (oz)	0	28,100	47,037	36,65
60					Copper Sulphate (t)	0	1,579	3,157	3,157
50					Pyrite Produced (t)	0	105,500	211,000	211,00
40					Cash costs (A\$) / Au oz	2016	2017	2018	2019
					C1 Cash costs	\$0	\$520	\$621	\$797
30					Other Costs	\$0 \$0	•		\$378
							\$328	\$331	
20					By Product Credit	\$0 \$0	(-\$420)	(-\$502)	(-\$644
10			-		Total Operating Cost /oz	\$0	\$428	\$450	\$532
Base case 5 Yr mine Dou		Decrease No royalt		end No royalty,	Resource Indicated	Tonnes 2,487,000	Gold (g/t)	Contained Gold (oz) 127,135	As at (da
	nside opex - 15% o 15%,	Decrease No royalt pex - 10% payments		life - 10 yr mine		70nnes 2,487,000 5,861,000 8,348,000			
life down (Opex Capex	nside opex - 15% o 15%,		capex - mine	life - 10 yr mine	Indicated Inferred	2,487,000 5,861,000	1.6 1.1	(oz) 127,135 201,626 <b>328,760</b> Copper Content	31 - Dec
life down (Opex Capex atios	nside opex - 15% o 15%, x 10%	pex - 10% payments	capex - mine 15% 10	life - 10 yr mine yrs life	Indicated Inferred Total	2,487,000 5,861,000 <b>8,348,000</b>	1.6 1.1 <b>1.2</b>	(oz) 127,135 201,626 <b>328,760</b>	31 - Dec 31 - Dec
life down (Opex Capex atios	2016 (-\$0.01)	2017 \$0.13	2018 \$0.11	life - 10 yr mine yrs life 2019 \$0.08	Indicated Inferred Total  Resource Indicated	2,487,000 5,861,000 <b>8,348,000</b> Tonnes 2,487,000	1.6 1.1 1.2 Copper %	(oz) 127,135 201,626 328,760  Copper Content (kt) 3,979	31 - Dec 31 - Dec As at (da 31 - Dec
life down (Opex Capex  tios  6 (A\$)  EPS (A\$)	2016 (-\$0.01) (-\$0.14)	2017 \$0.13 (-\$0.04)	2018 \$0.11 \$0.14	life - 10 yr mine yrs life 2019 \$0.08 \$0.11	Indicated Inferred Total  Resource Indicated Inferred	2,487,000 5,861,000 <b>8,348,000</b> Tonnes 2,487,000 5,861,000	1.6 1.1 1.2 Copper % 0.16% 0.14%	(oz) 127,135 201,626 328,760  Copper Content (kt) 3,979 8,205	31 - Dec 31 - Dec As at (da 31 - Dec
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life down (Opex Capex  tios  5 (A\$) PPS (A\$) Tratio (x) CF (x) Tratio (x) CF (x) Tratio	side opex - 15% o 15%, 2016 (-\$0.01) (-\$0.14) -14.5 -1.3 152.5 2016 \$0.1 \$0.0 \$2.0 \$0.0 \$2.0 \$0.0 (-\$1.9) \$0.0 \$0.0 \$3.4 \$19.0	2017 \$0.13 (-\$0.04) 1.3 -4.7 316.5 2017 \$58.8 \$17.3 \$3.0 \$0.0 \$38.5 \$5.5 \$1.5 \$2.7 \$28.7 2017	2018 \$0.11 \$0.14 1.6 1.3 316.5 2018 \$102.5 \$33.8 \$4.0 \$0.0 \$64.6 \$11.7 \$2.9 \$14.7 \$35.3 2018	10 yr mine   10	Indicated Inferred Total  Resource  Indicated Inferred Total  50,000  45,000  40,000  35,000  30,000  25,000  20,000  15,000	2,487,000 5,861,000 <b>8,348,000</b> Tonnes 2,487,000 5,861,000	1.6 1.1 1.2 Copper % 0.16% 0.14%	(oz) 127,135 201,626 328,760  Copper Content (kt) 3,979 8,205	31 - Dec 31
life down (Opex Capex  tios  6 (A\$) PS (A\$) ratio (x) CF (x) wres on issue (m) rnings (A\$ m) renue & other Inc. erating Costs were Expenses & Eval TDA oreciation erest Expense fift (loss) after tax lance Sheet (A\$ m) ets th E & Exp. & Dev. al Assets oillities iior Debt Facility	side opex - 15% o 15%, 2016 (-\$0.01) (-\$0.14) -14.5 -1.3 152.5 2016 \$0.1 \$0.0 \$2.0 \$0.0 (-\$1.9) \$0.0 \$0.0 (-\$1.9) 2016 \$3.4 \$19.0 \$22.5	2017 \$0.13 (-\$0.04) 1.3 -4.7 316.5 2017 \$58.8 \$17.3 \$3.0 \$0.0 \$38.5 \$5.5 \$1.5 \$2.7 \$28.7 2017	capex - mine 15% mine 10 mine 15% mine 10 mine	10 yr mine   10	Indicated Inferred Total  Resource Indicated Inferred Total  50,000 45,000 40,000 35,000 20,000 15,000 10,000 5,000	2,487,000 5,861,000 <b>8,348,000</b> Tonnes 2,487,000 5,861,000	1.6 1.1 1.2 Copper % 0.16% 0.14%	(oz) 127,135 201,626 328,760  Copper Content (kt) 3,979 8,205	31 - Dec 31
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life down (Opex Capex  Intios  S (A\$) FPS (A\$) E ratio (x) FCF (x) ares on issue (m) Intings (A\$ m) Intings (A\$	side opex - 15% o 15%, 2016  (-\$0.01) (-\$0.14) -14.5 -1.3 152.5  2016  \$0.1 \$0.0 \$2.0 \$0.0 \$2.0 \$0.0 (-\$1.9) \$0.0 \$0.0 \$2.0 \$0.0 \$2.0 \$0.0 \$0.0 \$0.0	2017 \$0.13 (-\$0.04) 1.3 -4.7 316.5 2017 \$58.8 \$17.3 \$3.0 \$0.0 \$38.5 \$5.5 \$1.5 \$2.7 \$28.7 2017  \$35.7 \$59.7 \$95.6 \$40.0 2017	capex - mine 15% mine 10 mine 15% mine 10 mine	10 yr mine   10	Indicated Inferred Total  Resource Indicated Inferred Total  50,000 45,000 45,000 35,000 30,000 25,000 10,000 15,000 10,000 5,000 0	2,487,000 5,861,000 8,348,000 Tonnes 2,487,000 5,861,000 8,348,000	1.6 1.1 1.2 Copper % 0.16% 0.14% 0.15%	(oz) 127,135 201,626 328,760  Copper Content (kt) 3,979 8,205 12,185	31 - Dec 31



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