

AJM – hard rock lithium

Product in demand; good margins

Recommendation

BUY, High Risk

Price

5.8c

Valuation

12.1c

Commodity

Lithium

- AJM's focus now is its Pilgangoora spodumene project, in the Pilbara region. AJM is currently completing a feasibility study, building on the November 2012 scoping study. Beer & Co expects good results.
- AJM is simplifying its portfolio; it has effectively exited its iron ore and has prepared to list its Indonesia coal operations on the SGX.
- Our base case valuation of 12c/share assumes 25Mt of ore processed at a rate of 1.0Mt/yr, with capital costs of \$85m. Our cash cost estimate is in line with that for PLS.
- We assume that AJM's Pilgangoora project sells only a single product; to be used in the battery segment.

Snapshot

Market Cap	\$51.6m
Cash on hand (31 Dec 2015)	\$1.28m
Net Debt	(\$16.1m)
Shares on Issue	893m
52 Week High	7.3c
52 Week Low	0.9c
1 month / 6 month VWAP	5.4c / 4.4c

AJM : daily share price v. value traded



AJM originally listed as Haddington Resources (HDN.ASX) in January 2001. It produced tantalite from July 2001 until September 2005. Pilgangoora was acquired in November 2001.

Following a change in management in December 2008, the company name was changed in November 2009.

AJM has exited its 30% of the Mt Webber iron ore operations and is seeking to list its Indonesian coal on the SGX, to focus on Pilgangoora spodumene.

A feasibility Study is expected soon.

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AJM completing Pilgangoora Feasibility Study

AJM announced the result of its scoping study on its Pilgangoora spodumene project in November 2012. AJM has been looking for an industry partner; in August 2015 announced the appointment of a General Manager for its Pilgangoora project, tasked with progressing the Mining Lease Applications and completing the Feasibility Study.

AJM announced an updated resources estimate, of 26Mt at 1.21% Li₂O, of which nearly 20Mt is indicated, and updated metallurgical testwork results in November 2015.

Beer & Co anticipates publication of the feasibility study in march or April 2016, with on-site construction from July and first project late in 2017.

Product in demand

Beer & Co expects AJM will produce a concentrate, grading about 7.5% Li₂O, which it will sell to battery producers in the Asia region. Underlying demand growth is strong and product prices are rising, with 7.5% concentrate recently selling for around US\$ 750/t, cif.

AJM simplifying its portfolio

AJM has effectively exited its iron ore operations and has prepared to list its Indonesian Coal on the SGX, which will leave AJM focussed on Pilgangoora.

Beer & Co risked valuation 12c/share

Beer & Co estimates that the capital cost to get into production will be about \$85m. We expect that AJM will be able to fund this through debt and equity as its Feasibility Study results will attract the required interest.

Beer & Co projects that AJM's Pilgangoora project will ship 140kt/yr of 6.8% Li₂O concentrate, more in earlier years, at an all in cost of AUD 370/t, lower in early years.

Beer & Co conclusions

Beer & Co initiates research on AJM with a BUY, High Risk, recommendation.

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Altura Mining (AJM)

Introduction

Figure 1 shows the detail of Beer & Co's estimated valuation of AJM.

Figure 1 :Detail of Beer & Co's valuation of AJM

discount rate = 12.0 %		30 June 2015		10-Dec-15	
	risk :	100%	Product	per share	
Pilgangoora Resources	70 %	\$ 224m	\$ 157m	9.4 c	9.8 c
franking credits	42 %	\$ 37m	\$ 16m	0.9 c	1.0 c
Pilgangoora Extensions	55 %	\$ 4m	\$ 2m	0.1 c	0.2 c
franking credits	33 %	\$ 1m	\$ 0m	0.0 c	0.0 c
Indonesian Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mininig Services	70 %	(\$ 2m)	(\$ 2m)	(0.1c)	(0.1c)
Philippines Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mt Webber Iron Ore	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Lithium Corp	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Corporate	100 %	(\$ 12m)	(\$ 12m)	(0.7c)	(0.7c)
Cash / Debt	100 %	(\$ 15m)	(\$ 15m)	(0.9c)	(0.4c)
Equity raisings	100 %	\$ 27m	\$ 27m	1.6 c	1.5 c
TOTAL		\$ 264m	\$ 174m	10.4 c	11.3 c
Shares on issue	837.7m	F P O shares	197.7m	Options	
	35.3m	2015 - 16	197.7m	Ops. Ex'd	
	593.6m	later	9.1m	Perf Rights	

Source : AJM quarterly reports, Beer & Co estimates

Beer & Co's risked, base case valuation of AJM is 12c/share.

This valuation is risked and allows for significant equity raisings to finance construction of AJM's Pilgangoora project.

Figure 1 shows that while AJM has a spread of assets, all the value is in its Pilgangoora spodumene operations, with the other assets generally detracting from value. However, of these other assets :

The detail in Beer & Co's valuation shows that our valuation is totally dominated by AJM's Pilgangoora project.

While AJM has a large number of other operations, our estimated value, in total, is negative.

AJM is in the process of simplifying its portfolio to focus on the valuable Pilgangoora project.

- Mt Webber iron ore : AJM has a royalty of \$1/t when the FOB price is over AUD 95/t
 - Beer & Co does not expect iron ore prices to reach this level at any time, but at least it does not require any management time and attention;
- AJM has 11m shares in Lithium Corporation, a Nevada based company listed on Nasdaq's OTC bulletin board
 - While Beer & Co believe that this investment has a positive value, the value is trivial but the potential is significant as Tesla has stated that it wishes to maximise sourcing from USA for its battery Giga-factory
- AJM is attempting to list its Indonesian Coal operations on the Singapore Exchange (SGX)
 - AJM announced this intention in November 2014 and hopes to make its application to the SGX, which will result in a spin-out in early 2016
 - The operation accounts for the debt shown in Figure 1;
 - AJM's Indonesian Coal has been financially marginal
- AJM's mining services business was acquired in April 2007, and while it may have strategic value, it has struggled to generate a positive cashflow.
- Beer & Co does not give any value to exploration;

AJM's Philippine coal assets were acquired in February 2013. Philippines has 8 coal fired power station and plans to build a further 7. However, Beer & Co does not ascribe any value to this asset.

AJM's Pilgangoora Spodumene Project - Description

AJM's Pilgangoora project in the Pilbara region of WA, about 110km from Port Hedland.

AJM has reported wide, high Li₂O grade, intercepts, at and near surface.

AJM's Pilgangoora project has a JORC (2012) Resource estimate of 26Mt at 1.21% Li₂O,

Spodumene is a hard rock ore of Lithium. As shown in Figure 2, AJM's Pilgangoora project is in the Pilbara region, as shown in Figure 2.

AJM acquired the project in 2001 as a tantalite prospect.

Following the installation of new management in December 2008, AJM began geological work at Pilgangoora in 2009. After initial mapping and sampling, AJM reported drill results in August 2010 including :

- 51m at 1.72% Li₂O from 6m below surface;
- 5m at 1.60% from surface plus 30m at 1.71% Li₂O from 10m below surface; and
- 23m at 1.42% from surface.

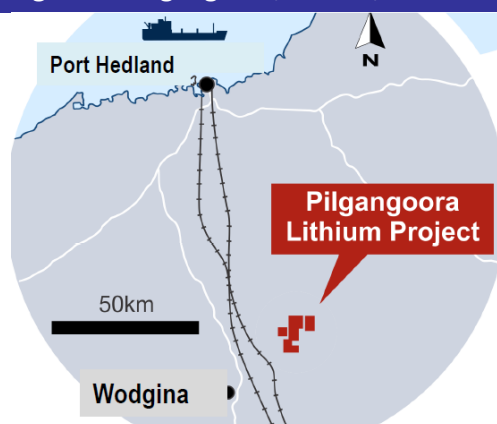
AJM announced results of a scoping study on Pilgangoora on 19 November 2012, based on the October 2012 Resource estimate of 25.16Mt at 1.23% Li₂O. The company then began a search for a strategic partner.

In June 2015, AJM announced that, following a recent capital raising, that it would progress the Pilgangoora lithium project, highlighting the improvement in the fundamentals of the lithium market.

On 14 September 2015, AJM announced an updated Mineral Resource Estimate, to be compliant with the requirements of the JORC Code, 2012, as shown in Figure 3.

As shown in Figure 4, the mineralisation is contained in out-cropping, shallow dipping pegmatites

Figure 2 : Pilgangoora, Pilbara, WA



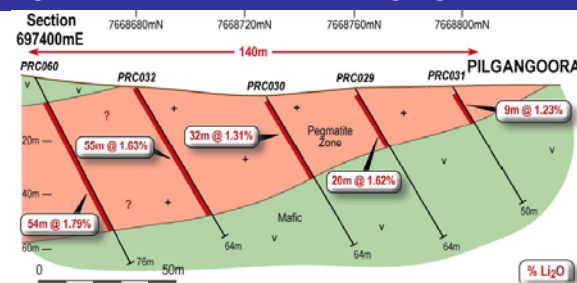
Source : AJM presentation, November 2015

Figure 3 : Pilgangoora Resources

Resources Category	cut-off Li ₂ O		Li ₂ O	
			grade	contained
Measured	0.80 %	0 Mt		
Indicated	0.80 %	19.77 Mt	1.21 %	239,000 t
Inferred	0.80 %	6.29 Mt	1.20 %	76,000 t
TOTAL		26.06 Mt	1.21 %	315,000 t

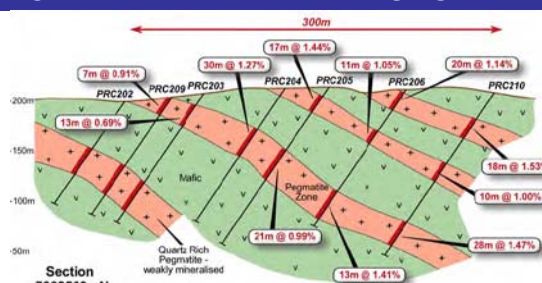
Source : AJM announcement to ASX, 14 September 2015

Figure 4a : Mineralisation at Pilgangoora



Source : AJM Presentation, November 2015

Figure 4b : Mineralisation at Pilgangoora



Source : AJM announcement to ASX, 8 May 2012

Lithium Market

Figure 5 shows that, for 2014 :

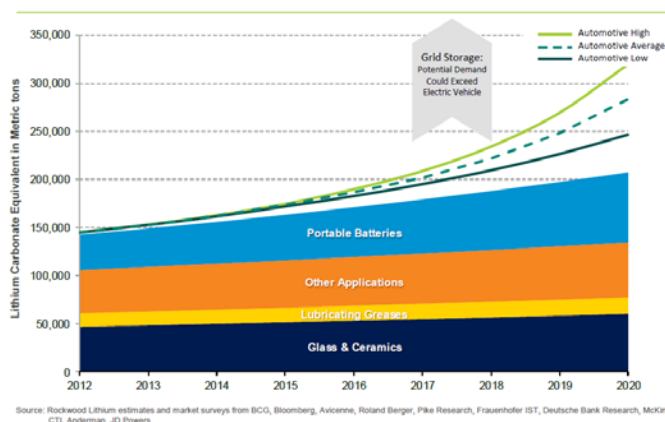
- The major use for lithium was in the production of glass / ceramic ware, which makes use of the almost zero co-efficient of expansion of Li_2O ; and
- By 2016, the dominant use is expected to be batteries for
 - Portable electronic devices, including phones and tablets, as well as power tools and related equipment;
 - electric vehicles, both battery electric and hybrid vehicles; and
 - off-grid electricity storage, in conjunction with renewable energy which has intermittent, rather than continuous or on-demand, generation.

Demand for lithium is expected to grow strongly for energy storage, with

- Battery electric and hybrid vehicles;
- Portable electronic devices and power tools; and
- Off grid electricity storage

Figure 5 : Lithium demand

Potential Lithium Demand Delivers Significant Upside



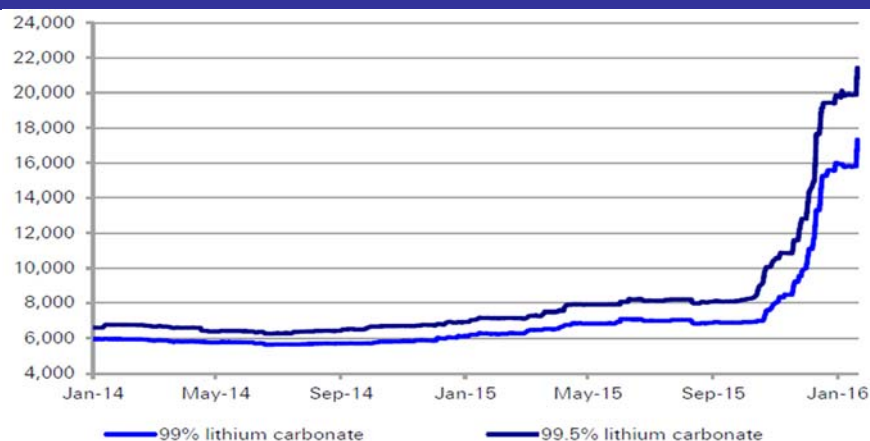
Source : Albemarle presentation, September 2015

While the demand picture is good, supply is tight as

- the expected surge in production from brines has been slower than expected;
- new generation lithium-ion battery technology, with higher energy densities, use Lithium-hydroxide (LiOH), rather than lithium carbonate (Li_2CO_3) as a feedstock, are best produced from spodumene while brines produce Li_2CO_3 .

Figure 6 shows that, in contrast to other commodities, the price of Li_2CO_3 has been rising strongly, especially since October 2015.

Figure 6 : Lithium carbonate prices strong



Source : Asian Metals, Beer & Co

Also, Chinese battery production has been set up based on spodumene feed, rather than brines, and the Greenbushes mine, a major source of feed, will not have product for third party manufacturers after 2017, when Albemarle has completed construction of its battery plant in China.

Figure 7 shows recent prices for spodumene concentrate.

Figure 7 : Strong prices for spodumene concentrate

USD /t	cif USA		cif Europe		cif Asia	
	High	Low	High	Low	High	Low
>7.5% Li ₂ O	772	854	740	790	725	775
5% Li ₂ O	463	496	450	500	350	410

Source : *Industrial Minerals*, February 2016

Beer & Co Analysis

On 19 November 2012, AJM announced the results of its scoping study on Pilgangoora spodumene project. The conclusions were summarised as

- Capital cost of \$96m,
- to bring into a operation a project to process 830kt/yr of ore;
- produce up to 150kt/tyr of 6% Li₂O concentrate; and
- generating returns of an IRR of 52.5% and an NPV of \$93m.

AJM published the results of a scoping study in November 2012

That study assumed a mining inventory corresponding to the resource estimate. Figure 8 shows the mining inventory assumed by Beer & Co in this analysis.

Figure 8 : Assumed Mining Inventory

Starter	2.5 Mt	1.60 %	40 kt
High grade	4.0 Mt	1.35 %	54 kt
Standard	12.5 Mt	1.20 %	150 kt
Low grade	6.0 Mt	1.00 %	60 kt
TOTAL	25.0 Mt	1.22 %	304 kt

Other assumptions made by Beer & Co in this analysis include :

Source : Beer & Co assumptions

- Capital cost is \$A 82m to mine and process 1.0Mt/yr of ore; Beer & Co expects
 - A lower cost than the scoping study as costs have come down since then;
 - Lower costs than for Pilbara Minerals (PLS.ASX) as AJM is planning only one product while PLS is planning 3 (tantallite, low iron spodumene for glass-ceramics market and spodumene for the battery market);
- The current feasibility study is published in March 2016 and construction starts in 2016 Q3 for first production in September 2017;
- 1.0Mt of ore is mined and processed each year to produce 12,800t of Li₂O in a 6.8% concentrate in the first 2 years, and about 9,700t a year over the life;
- Mining starts at a relatively shallow area, with a strip ratio of 3.0 and climbs continuously over the project life;
- Recovery of Li₂O in ore to concentrate is assumed to be 80%
 - This is the result of the testwork by Pilbara Minerals (PLS.ASX), while AJM have not provided any guidance.

Beer & Co has assumed a 1.0Mt/yr operation, with a capital cost of \$82m.

Beer & Co projects a high grade start

Figure 9 shows the detail of Beer & Co's cost estimates, while Figure 10 shows Beer & Co's projected financial outcomes for AJM's Pilgangoora project, before taking into account finances and tax.

Figure 9 : Beer & Co's estimated C1 costs for AJM's Pilgangoora operations

	LoM	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Waste		\$ 5.0m	\$ 7.6m	\$ 8.4m	\$ 9.1m	\$ 9.6m	\$ 10.1m	\$ 10.3m	\$ 9.8m	\$ 10.2m	\$ 10.6m	\$ 11.0m	\$ 11.4m
volume		2,024 kt	3,225 kt	3,425 kt	3,625 kt	3,825 kt	4,025 kt	4,225 kt	4,425 kt	4,625 kt	4,825 kt	5,025 kt	5,225 kt
Strip ratio	5.5 : 1	3.1 : 1	3.2 : 1	3.4 : 1	3.6 : 1	3.8 : 1	4.0 : 1	4.2 : 1	4.4 : 1	4.6 : 1	4.8 : 1	5.0 : 1	5.2 : 1
AUD /t ore	\$ 12.2/t	\$ 7.5/t	\$ 7.6/t	\$ 8.4/t	\$ 9.1/t	\$ 9.6/t	\$ 10.1/t	\$ 10.3/t	\$ 9.8/t	\$ 10.2/t	\$ 10.6/t	\$ 11.0/t	\$ 11.4/t
AUD /t material	\$ 2.2/t	\$ 2.5/t	\$ 2.4/t	\$ 2.5/t	\$ 2.5/t	\$ 2.5/t	\$ 2.5/t	\$ 2.4/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t
Ore Mining		\$ 2.9m	\$ 4.2m	\$ 4.3m	\$ 4.4m	\$ 4.6m	\$ 4.7m	\$ 4.7m	\$ 4.8m	\$ 4.9m	\$ 4.9m	\$ 5.0m	\$ 5.1m
AUD /t ore	\$ 7.8/t	\$ 7.8/t	\$ 6.8/t	\$ 6.9/t	\$ 7.0/t	\$ 7.2/t	\$ 7.3/t	\$ 7.4/t	\$ 7.4/t	\$ 7.5/t	\$ 7.6/t	\$ 7.6/t	\$ 7.7/t
Processing		\$ 7.8m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m
AUD /t ore	\$ 11.5/t	\$ 11.8/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t
Admin & Overhead		\$ 2.8m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m
AUD /t ore	\$ 3.5/t	\$ 4.2/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t
Concentrate Transport		\$ 7.4m	\$ 12.4m	\$ 12.4m	\$ 10.6m	\$ 10.4m	\$ 10.4m	\$ 10.4m	\$ 9.4m	\$ 9.3m	\$ 9.3m	\$ 9.3m	\$ 9.3m
AUD /t ore	\$ 9.4/t	\$ 11.2/t	\$ 12.4/t	\$ 12.4/t	\$ 10.6/t	\$ 10.4/t	\$ 10.4/t	\$ 10.4/t	\$ 9.4/t	\$ 9.3/t	\$ 9.3/t	\$ 9.3/t	\$ 9.3/t
		\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t
TOTAL	\$ 44m	\$ 26m	\$ 39m	\$ 40m	\$ 39m	\$ 40m	\$ 40m	\$ 40m	\$ 39m	\$ 39m	\$ 40m	\$ 40m	\$ 41m
	\$ 44/t	\$ 42/t	\$ 42/t	\$ 43/t	\$ 42/t	\$ 42/t	\$ 43/t	\$ 43/t	\$ 42/t	\$ 42/t	\$ 42/t	\$ 43/t	\$ 43/t

Source : Beer & Co estimates

Figure 10 : Beer & Co's projected financial outcomes for AJM's Pilgangoora operations

AUD m	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
AUD/USD		0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
Spodumene, Chemical grade		US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t
Li2O in concentrate	0t	7,672t	12,800t	12,800t	10,975t	10,800t	10,800t	10,800t	9,705t	9,600t	9,600t	9,600t	9,600t
Li2O concentrate	0 kt	113 kt	188 kt	188 kt	161 kt	159 kt	159 kt	159 kt	143 kt	141 kt	141 kt	141 kt	141 kt
Revenue	0	69	114	114	98	96	96	96	87	86	86	86	86
Cash Costs	0	28	42	43	42	42	43	43	42	42	42	43	43
Royalties	0	5	9	9	7	7	7	7	6	6	6	6	6
Dep'cn & Amort'sn	0	3	7	7	7	7	7	7	7	7	7	7	7
E B I T	0	32	57	57	42	40	40	40	32	31	30	30	29
Feasibility / permitting	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Cap.Ex	(62)	(21)	0	0	0	0	0	0	0	0	0	0	0
Sus Cap. Ex	0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Cashflow, before tax, etc	(62)	13	62	61	47	45	44	44	37	35	35	34	34

Source : Beer & Co estimates

Base Case Valuation and Sensitivity Analyses

Figure 2 showed the detail of Beer & Co's risked, base case, valuation of AJM. This analysis has required Beer & Co to make its own estimates for many inputs.

Capital and Operating Costs

Figure 11 shows that the conclusions from Beer & Co's valuation are robust even to significant increases in both capital and operating costs, despite increasing equity with higher capital costs.

Figure 11 : Costs Sensitivity

Op.Ex \ Cap.ex	Base	+ 25 %	+ 50 %
Base	12.1 c	10.2 c	8.6 c
+ 10 %	10.6 c	8.9 c	7.6 c
+ 20 %	9.1 c	7.7 c	6.5 c

Source : Beer & Co estimates

Beer & Co's conclusions are robust for changes in important assumptions

Product Prices

Figure 6 showed that lithium carbonate prices have increased strongly recently. While Figure 7 does not show the increase for spodumene prices, all the prices in Figure 7 are higher than 6 months back.

In our base case analysis, Beer & Co has used a cif price of US\$ 400/t, which Figure 7 shows is lower than the prices for low grade product.

Figure 7 also shows that there is a significant difference in value between low grade and high grade material (pure spodumene is about 8.1% Li₂O)

The metallurgical testwork suggests that AJM should produce a grade of about 7%, and could produce 7.5%, with lower recoveries, if that is the conclusion of the economic analysis.

Beer & Co's analysis assumes a product grade of about 6.8% with overall recoveries of 80%, which are likely to prove conservative.

Also, Beer & Co is wary that at least some of the recent price rise will prove to be unsustainable over the longer run.

Figure 12 shows that there is significant upside to Beer & Co's risked base case valuation of AJM for higher prices.

Figure 12 : Sensitivity to prices

Riskd	US\$ 400 /t	US\$ 450 /t	US\$ 500 /t
Battery 100%	12.1 c	16.0 c	19.9 c
Glass-ceramics 25%	15.1 c	19.0 c	22.8 c

Source : Beer & Co estimates

If AJM is able to produce a concentrate of over 7% Li₂O, then Figure 7 suggests a value of about US\$ 650/t, which Figure 12 suggests would give a risked base case valuation of over 30c/share.

Further, Figure 12 shows further upside, from 15% to 25%, if AJM is able to supply high Li₂O / low Fe product for the ceramics and glass markets.

Risk

Beer & Co's base case valuation is risked. Figure 13 shows that there is significant further upside to Beer & Co's valuation of AJM from successful delivery of the project.

Figure 13 : Sensitivity to prices and risking

Un-riskd	US\$ 400 /t	US\$ 450 /t	US\$ 500 /t
Battery 100%	17.1 c	22.7 c	28.3 c
Glass-ceramics 25%	21.4 c	27.0 c	32.5 c

Source : Beer & Co estimates

Beer & Co initiates research on AJM with a **BUY, High Risk** recommendation.

We see a number of catalysts for share price action, including

- Feasibility study;
- Indonesian Coal listed on SGX; and
- Marketing Pilgangoora.

Conclusions

In Beer & Co's view, AJM's Pilgangoora project is a robust and valuable project and that the company will become more apparent when

- The feasibility study on Pilgangoora is published; and
- AJM has prepared the means to exit its Indonesian coal operations, which require significant resources and attention while not currently yielding a return; and
- AJM can focus on promoting the Pilgangoora project to both equity investors and also end user customers.

Sensitivity analysis shows that Beer & Co's conclusions are robust with regards to our cost estimates and that there is significant upside potential given the market for lithium product and also the potential for successful project delivery of the project.

AJM's management has a track record for successful project delivery.

We initiate research on AJM with a **BUY, High Risk**, recommendation.

AJM - Description

Early History

Altura Mining (AJM) listed in January 2001 as Haddington Resources (HDN). HDN was, at that time, listed on the Toronto Venture Exchange.

HDN had acquired a licence from Sons of Gwalia (SGW) in June 2000 in tenements at Bald Hill with tantalite resources. HDN listed on the ASX to raise capital to bring the Bald Hill tantalite mine into operation, which was achieved in July 2001.

HDN also held tenements at Mt Catlin.

On 28 November 2001, HDN announced the acquisition of the unlisted public company Australian Tantalum Limited (ATL) for \$30,000 cash plus 2.0m HDN shares plus 1.0m options on HDN shares, exercisable at 25c.

ATL held tenements in many areas with pegmatite hosted tantalite.

The tantalite price fell from 2003 and the Bald Hill operation, which was licenced only to 31 March 2006, closed in December 2005, after mining had ceased in September 2005. SGW had been put into administration on 30 August 2004 due to issues with its gold hedge book.

The project was subsequently sold, for \$1.75m, in June 2010.

Following closure of the tantalite mining operations, HDN decided to become a producer of coal, garnet, iron ore and uranium.

In June 2006, HDN announced the acquisition of a garnet prospect at Balline, about 113km north of Geraldton, but after work on a resource estimate and a feasibility study, the annual report for 2011 stated that the rise in the AUD made this project marginal.

HDN announced first drill results of its garnet project, 113km north of Geraldton

In September 2007, HDN announced, after 12 months of negotiation, the acquisition of Minvest, a contractor providing drilling, geophysics and project assessment, for 45m HDN shares.

In May 2007, HDN announced that it expected to secure a 2 year option to acquire two Indonesian coal projects, which are referred to as Tabalong Coal. Consequent to this acquisition, a new Director, Beng Tiek KUAN, came onto the Board on 28 November 2007.

In January 2008, HDN announced that it had executed an option agreement with Atlas Iron (AGO.ASX) for AGO to farm into Mt Webber, which is prospective for iron ore and contained with the tenements acquired through Australian Tantalum Limited.

Re-named Altura Mining

On 18 December 2008, the Board of HDN changed, with only BT Kuan remaining.

At the next AGM, in November 2009, the company approved a change of name to Altura Mining; the name was reported to be of Spanish origin and translates to "heights", describing the aspirations of the Board and management, and is readily pronounceable by both Australians and Indonesians.

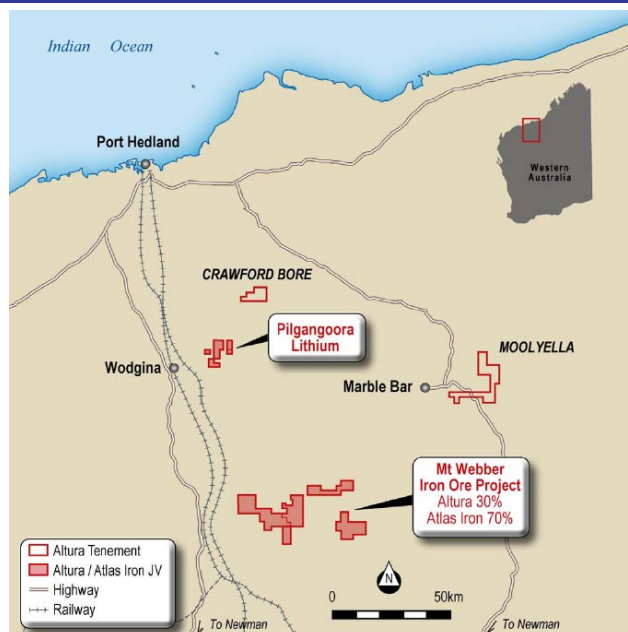
With the collapse in coal and iron ore prices, while AJM still has some exposure, as detailed later, AJM is now focussed on its spodumene opportunity at Pilgangoora.

Pilgangoora Spodumene Project

Background

AJM's Pilgangoora project was acquired in November 2001, with the acquisition of Australian Tantalum Limited (ATL). Figure 14 shows the areas acquired through ATL, which includes the Pilgangoora project as well as the Mt Webber iron ore project.

Figure 14 : Pilgangoora, in Pilbara region, WA



Source : AJM announcement to ASX, 27 April 2011

As shown in Figure 14, AJM's Pilgangoora project is about 20km from Wodgina, which is a high grade tantalite mine operated by Global Advanced Metals (GAM).

It is about 110km from Port Hedland.

The prospect was originally acquired for its tantalite prospectivity, but the grades are sub-economic for a tantalite project.

Geology and Mineralisation

Spodumene, an ore of lithium [$\text{LiAl}(\text{SiO}_3)_2$; about 3.75% of spodumene is Lithium], is contained in pegmatites that outcrop throughout the tenement area.

Figure 15 shows a significant spodumene crystal in the pegmatite.

AJM described the style of mineralisation as a swarm of pegmatites veins run parallel to the granite contact with the greenstones of the Warona Group.

Figure 15 : Spodumene crystal



Source : AJM announcement to ASX, 22 Nov 2011

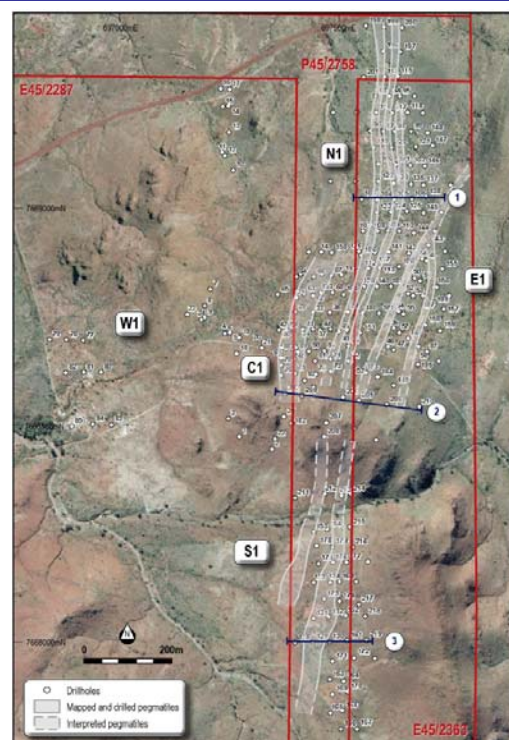
Figure 16 shows the mapped pegmatites in AJM's tenements, clearly visible from aerial photography, and on the ground.

The mineralisation occurs at the southern end of a zone of pegmatite intrusives within the synformal Pilgangoora greenstone belt. The pegmatites are hosted within amphibolites which have a mafic/ultramafic volcanic origin. The majority of the pegmatites are dykes striking north to north-east, dipping to the southeast.

The dykes range from 6-14m thick however there are areas where the pegmatites form lenticular pods.

The strike appears to about 1600m with a width of about 300m.

Figure 16 : Pilgangoora pegmatites



Source : AJM announcement to ASX, 22 Nov 2011

Drilling to date has shown that the mineralisation in the pegmatite is confined to lithium and rubidium (almost wholly reporting in spodumene and muscovite respectively) with relatively low values for tin and tantalum or other associated minerals.

Resources

AJM executed a major drilling programme at Pilgangoora in 2010 and 2011. Some results announced included :

- 29 April 2010 : Sampling yielded
 - Costean samples up to 2.33% Li₂O;
 - Rock chip samples up to 5.25% Li₂O
- 11 October 2010 : RC drilling yielded
 - 57m of pegmatite from the surface, with an aggregate intercept of 51m grading 1.72% Li₂O from 6m below surface
 - 23m grading 1.42% Li₂O from surface; and
 - 5m grading 1.60% Li₂O from surface and 30m grading 1.71% Li₂O from 10m depth, in the same hole
- 22 November 2011 : RC drilling yielded
 - 60m grading 1.65% Li₂O, from surface; and
 - 51m grading 1.77% Li₂O from 5m below surface
- 2 March 2011 : reported that 5 of 7 RC holes drilled reported intersections of at least 20m in width at grades greater than 1.30% Li₂O, including :
 - 20m grading 1.62% Li₂O from 5m, including 13m at 2.05% Li₂O;
 - 32m grading 1.31% Li₂O, from 2m below surface;
 - 26m grading 1.65% Li₂O from 28m below surface.

Initial Exploration Target

AJM announced their first Exploration target in May 2011, as shown in Figure 17 below, barely 7 months after the first drill campaign began. Figure 17 shows that the initial Exploration target was based on only 2 of the 5 identified pegmatite targets.

Figure 17 : Initial Exploration target, Pilgangoora

			Li ₂ O	
			grade	contained
Area C1	4 Mt	- 6 Mt	1.5 %	- 1.6 %
Area E1	2 Mt	- 3 Mt	1.6 %	- 1.8 %
TOTAL	6 Mt	9 Mt	1.5 %	- 1.7 %

Source : AJM announcement to ASX, 9 May 2011

Initial Mineral Resource Estimate

AJM announced their initial Mineral Resource Estimate only 3 months after the initial exploration target, on 8 August 2011, as shown in Figure 18.

Figure 18 : Initial Resource Estimate

Resources	Zone		Li ₂ O	
Category			grade	contained
Indicated	C 1	2.96 Mt	1.24 %	36,525 t
	E 1	2.13 Mt	1.33 %	28,473 t
	N 1	1.83 Mt	1.16 %	21,139 t
	Sub-Total	6.92 Mt	1.24 %	86,138 t
Inferred	C 1	0.76 Mt	1.40 %	10,655 t
	E 1	1.26 Mt	1.29 %	16,223 t
	N 1	1.60 Mt	1.17 %	18,767 t
	Sub-Total	3.62 Mt	1.26 %	45,645 t
TOTAL		10.54 Mt	1.25 %	131,783 t

Source : AJM announcement to ASX, 8 August 2011

Comparing the initial resource estimate with the exploration target shows :

- The Resource Estimate is larger because it covers 3 zones, of the 5 mentioned, compared with 2 in the target; and
- For zones C 1 and E 1, the Resource Estimate totals 7.1Mt. compared with the target of 6Mt – 9Mt, through the grade, of 1.29% Li₂O, is lower than the targeted grade of 1.5% - 1.7% Li₂O.

Updated Estimates

AJM also announced an updated Exploration Target at the same time as the initial resources estimate, as shown in Figure 19.

Figure 19 : Updated Exploration Target

			Li ₂ O	
			grade	contained
Area C 1	5 Mt	- 7 Mt	1.3 %	- 1.5 %
Area E 1	4 Mt	- 5 Mt	1.3 %	- 1.5 %
Area N 1	4 Mt	- 5 Mt	1.3 %	- 1.5 %
Area S 1	5 Mt	- 8 Mt	1.4 %	- 1.6 %
TOTAL	18 Mt	25 Mt	1.3 %	- 1.6 %

Source : AJM announcement to ASX, 8 August 2011

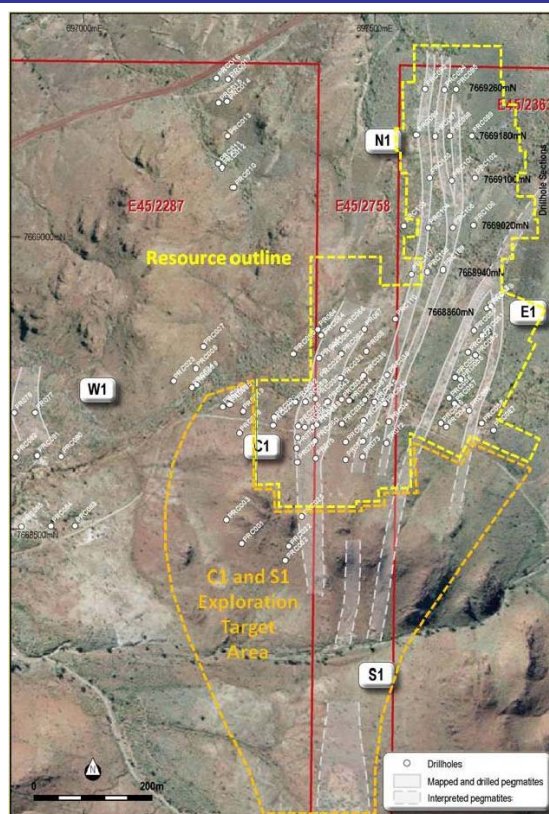
Figure 19 shows that the updated exploration target includes 4 of the 5 nominated zones.

Figure 20 shows the areas of the 5 zones, highlighting the areas included in the resources estimate.

Figure 21 shows the next update of the Mineral Resource Estimate, which now totals over 25Mt of resources across four zones.

It shows that the tonnes were just above the upper end of the estimate in the exploration target, but also that the grade was below the low end, with contained Li_2O nearly at the top end of the range.

Figure 20 : Areas of Pilgangoora mineralisation



Source : AJM announcement to ASX, 8 August 2011

Figure 21 : Revised Resource Estimate Pilgangoora

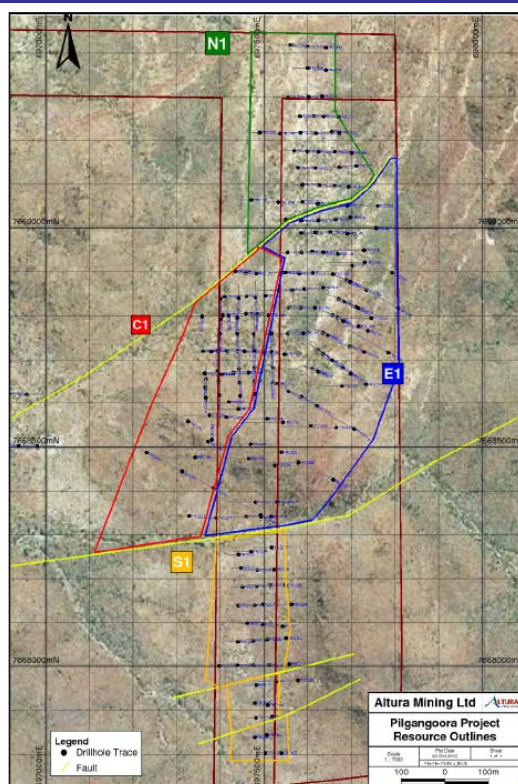
Resources Category	Zone		Li_2O	
			grade	contained
Indicated	C 1, E 1, N 1	14.99 Mt	1.27 %	190,783 t
	S 1	2.30 Mt	1.11 %	25,374 t
	Sub-Total	17.29 Mt	1.25 %	216,157 t
Inferred	C 1, E 1, N 1	7.24 Mt	1.22 %	88,173 t
	S 1	0.63 Mt	0.95 %	6,012 t
	Sub-Total	7.87 Mt	1.20 %	94,185 t
TOTAL		25.16 Mt	1.23 %	310,342 t

Source : AJM announcement to ASX, 3 October 2012

The resource estimate was based on a drill program comprising 159 RC holes for a total 14,429m drilled. This drilling identified 12 discrete pegmatitic dykes.

Figure 22 shows the drill pattern corresponding to each of the zones reported in the resource estimate. Figure 22 also shows :

- Out-cropping pegmatites;
- Potential extensions, especially to the north., going into tenement areas that are not AJM's but rather Pilbara Minerals (PLS), which is to the north and east of the AJM tenements; and
- Tracks servicing the area.

Figure 22 : Pilgangoora resources area

Source : AJM announcement to ASX, 3 October 2012

On 14 September 2015, AJM announced a revised Mineral Resource Estimate, as shown in Figure 23, to be compliant with the revised JORC (2012) code.

The revised estimate is not based on extra data, but a re-interpretation of existing data. The revised estimate is consistent with, though slightly larger volume at a slightly lower grade for a very slightly higher amount of contained mineralisation.

The overall resource grade is below that advised in the exploration targets and also low compared with the significant widths at good grades reported during the drill programmes during 2010 and 2011.

This can be due to the cut-off grade chosen, especially as there are no clear guidelines in this regard.

Beer & Co understands that the deposit has significant potential to be of a high grade, though with fewer tonne.

Figure 23 : Latest Resource estimate

Resources Category	cut-off Li ₂ O		Li ₂ O	
			grade	contained
Measured	0.80 %	0 Mt		
Indicated	0.80 %	19.77 Mt	1.21 %	239,000 t
Inferred	0.80 %	6.29 Mt	1.20 %	76,000 t
TOTAL		26.06 Mt	1.21 %	315,000 t

Source : AJM announcement to ASX, 14 September 2015

Scoping Study

On 19 November 2012, AJM announced the results of its scoping study on Pilgangoora spodumene project. The conclusions were summarised as

- Capital cost of \$96m
- to bring into a operation a project to process 830kt/yr of ore; and
- produce up to 150kt/tyr of 6% Li₂O concentrate.

The study assumed a mining inventory corresponding to the resource estimate.

While AJM reported an IRR of 52.5% and an NPV of \$93m, AJM's focus was to bring a strategic partner into the project, while AJM coped with the difficulties in its iron ore and coal operations.

Feasibility Study

On 22 June, 2015, AJM announced that it was commencing a feasibility study on the development of its Pilgangoora spodumene project. In that announcement, AJM stated :

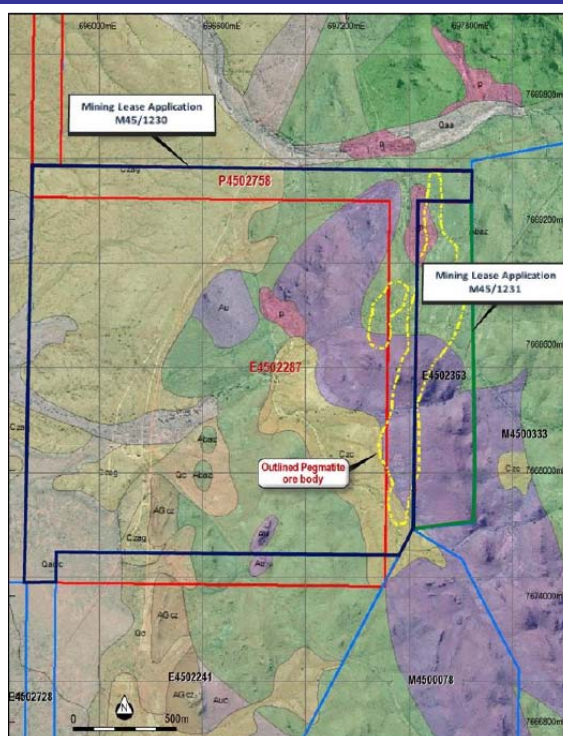
- There is renewed interest, with Pilbara Minerals (PLS.ASX) acquiring the rights to tenements immediately to the north and east of AJM's;
- PLS had identified both tantalum and lithium resources with their tenements, hosted in pegmatite dykes that appeared to extend into the AJM tenements and offer similar structural characteristics in both strike and dip direction; and
- AJM's feasibility study will focus on high grade areas, with an aim of mining 1.7% - 1.9% Li₂O in the early years.

AJM also stated that it lodged 2 mining licence applications. Figure 24 shows the areas covered by these MLAs and the outline of the current resource estimate.

On 12 August 2015, AJM announced that it had recruited Chris Evans to be its General Manager Operations, dedicated to the delivery of the feasibility study on AJM's Pilgangoora spodumene project.

Chris is a civil engineer and project manager, who had been the project manager for the Mt Webber mine, in which AJM had been a partner.

Figure 24 : Mining Lease Applications



Source : AJM announcement to ASX, 22 June 2015

Metallurgical Test-work

On 2 November, 2015, AJM announced the results of recent, updated metallurgical test-work. Figure 25 summarises the results announced.

Figure 25a : Metallurgical test results

Heavy Liquid Separation	Li ₂ O grade	Spodumene content
High grade sample, 3.5mm	7.54 %	93.9 %
	7.30 %	90.9 %
	7.34 %	91.4 %
Low grade sample, 3.5mm	7.69 %	95.8 %
	7.79 %	97.0 %
	7.36 %	91.7 %

Source : AJM announcement to ASX, 2 November 2015

Figure 25b : Metallurgical test results

2 Stage Dense Media Separation	Li ₂ O grade	Mass
Clean conc, SG > 3.0	6.89 %	8.59 %
Cleaner recycle, SG > 3.0	6.12 %	2.85 %
Middlings, SG > 2.7	3.14 %	20.18 %
Tailings, SG < 2.7	0.24 %	68.36 %

Source : AJM announcement to ASX, 2 November 2015

Figure 25a indicates that the concentrate grade will be about 7.5%, but this is for the coarser material and AJM's announcement did not show the proportion of the feed reporting to the coarser fraction, and hence the overall recovery.

Figure 25b shows that adding the finer fraction, to enhance overall recovery, reduces the expected concentrate grade.

AJM's announcement also did not show :

- Overall recovery of Li_2O ; nor
- The assays of the final product, with special reference to the iron levels.

This is work that still needs to be done.

In its announcement, AJM also stated :

- Adding the material reporting to the cleaner recycle stream to the initial feed material increases the overall feed grade, suggesting that grades greater than 7% Li_2O in concentrate should be achievable; and
- Test work to remove garnet and mica has the potential to upgrade the cleaner concentrate further, to achieve grades of up to 7.5% Li_2O in concentrate.

Other Areas

In their 22 June 2015 announcement, AJM stated that much of the work of the feasibility was expected to be completed by the end of 2015. This work included

- Geological and resource assessment and geotechnical evaluation
- Mining and supporting infrastructure;
- Processing and plant design;
- Marketing;
- Water, environmental assessment and mine closure planning;
- Capital and operating costs, and financial evaluation
- Native Title Agreements and pastoral leaseholder agreements.

Beer & Co Analysis

Lithium / Spodumene

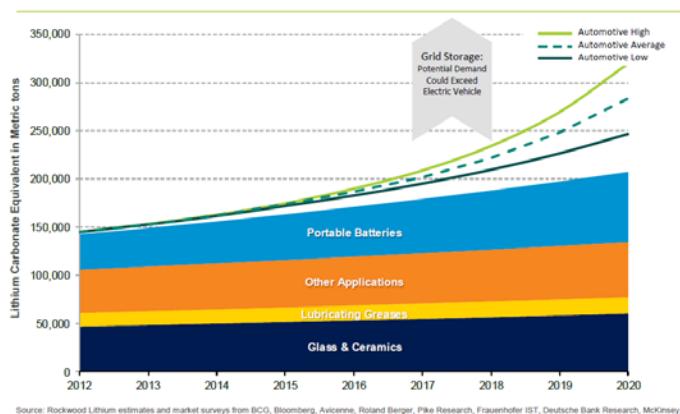
AJM's Pilgangoora project will produce a Li_2O concentrate; Figure 25a shows that concentrate will be over 90% spodumene, which is an ore of lithium. Lithium is about 3.7% of the mass of spodumene.

Figure 26 shows that, for 2014 :

- The major use for lithium was in the production of glass / ceramic ware, which makes use of the almost zero co-efficient of expansion of Li_2O ; and
- By 2016, the dominant use is expected to be batteries for
 - Portable electronic devices, including phones and tablets, as well as power tools and related equipment;
 - electric vehicles, both battery electric and hybrid vehicles;
 - off-grid electricity storage, in conjunction with renewable energy which has intermittent, rather than continuous or on-demand, generation.

Figure 26 : Lithium demand

Potential Lithium Demand Delivers Significant Upside



Source : Albemarle presentation, September 2015

Figure 26 also shows that significant growth in demand is projected for the battery applications, especially for vehicles and off-grid storage.

Prices

Generally, the material traded has tended to be lithium carbonate, Li_2CO_3 . It had been expected that brine sources would dominate the production of lithium material, at the expense of hard rock sources.

It had been expected that Greenbushes mine, which

- has been operating for many years, having been originally developed as a tin then tantalite mine and operated by Sons of Gwalia before being purchased by Talison;
- has a high grade deposit, with an average resource grade of 2.4%, about 2x that of any other mine proposed; and
- is owned 51% by Sichuan Tianqi Lithium, which uses all of its share of the output of the Greenbushes mine for its own operations, and 49% by Albemarle, a NYSE listed chemicals company.

However, there have been 3 major factors that have changed this view :

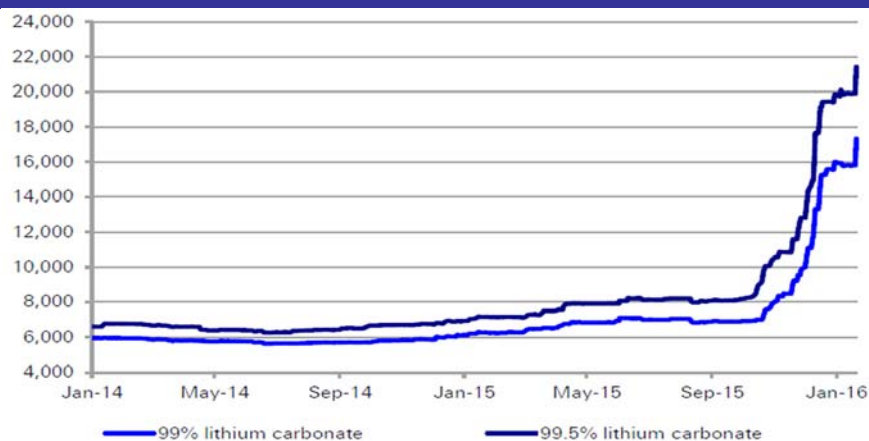
- (i) Albemarle has announced that it intends to build its own battery plant, in China, which will consume its share of the production from the Greenbushes mine, so other plants, especially in China, which are set up to process spodumene, require other supply;
- (ii) The performance of brine operations has been less than expected, as the process has proven to be more tricky, given the variability in brine chemistry; and
- (iii) Newer, higher energy batteries, use lithium hydroxide, (LiOH), rather than Li_2CO_3 , as a base, and the former can be sourced from spodumene more easily than from brines.

As a result of the firm demand and weaker than expected supply, the price of lithium supply has risen as shown in Figure 27.

However, AJM's Pilgangoora project will not be selling lithium carbonate, but a spodumene concentrate, for which recent prices are shown in Figure 28.

Beer & Co uses a price of US\$ 400/t for AJM's product, though Figure 28 suggests that the price should be higher.

Figure 27 : Lithium carbonate prices strong



Source : Asian Metals, Beer & Co

Figure 28 : Strong prices for spodumene concentrate

USD /t	cif USA		cif Europe		cif Asia	
	High	Low	High	Low	High	Low
>7.5% Li ₂ O	772	854	740	790	725	775
5% Li ₂ O	463	496	450	500	350	410

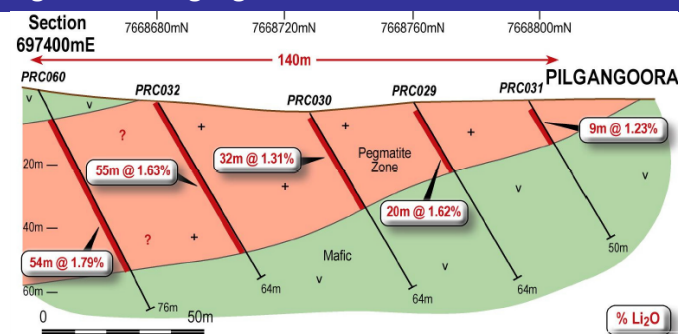
Source : Industrial Minerals, February 2016

Mining Operations

At the 2015 AGM, in November, AJM stated that the Pilgangoora mineralisation :

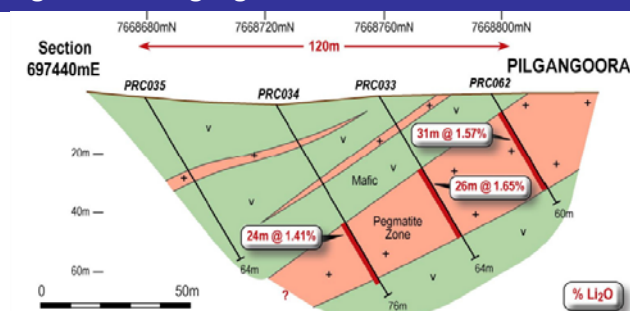
- Is shallow outcropping dykes that can be mined from surface, as shown in Figure 29; and
- Has reported thick intercepts, up to 70m

Figure 29a : Pilgangoora mineralised structures



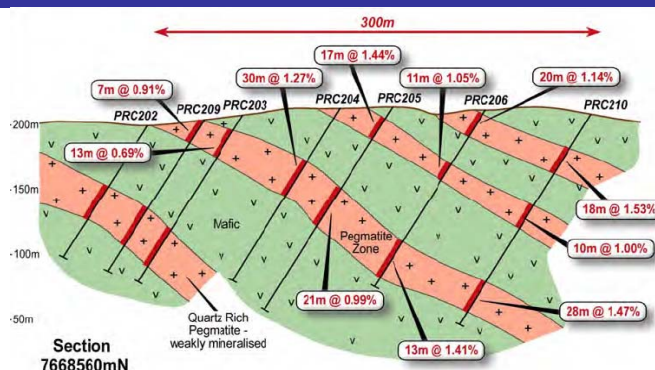
Source : AJM Presentation, November 2015

Figure 29b : Pilgangoora mineralised structures



Source : AJM Presentation, November 2015

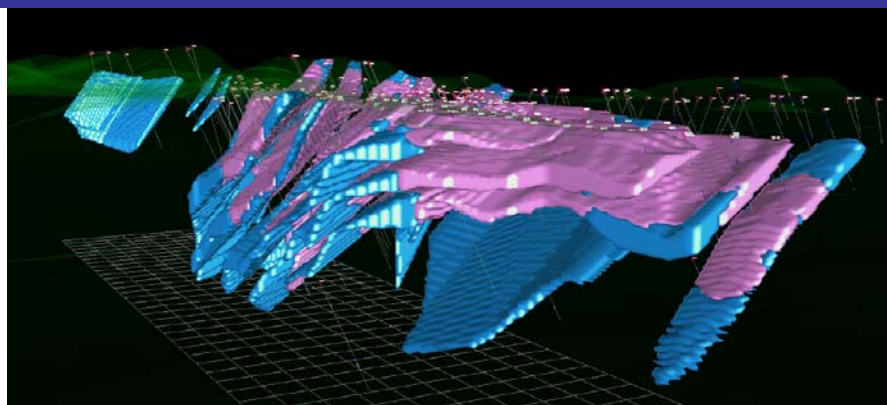
Figure 29c : Pilgangoora mineralised structures



Source : AJM announcement to ASX, 8 May 2012

Figure 30 shows AJM's resource model for Pilgangoora, showing the continuity of structure and the relatively shallow dip which, combined with the strong distinction between the mineralised material and the host rock makes for easy mining.

Figure 30 : Pilgangoora Resources



Source : AJM Presentation, November 2015

Figure 23 showed that AJM has a Resource of 26Mt at an average grade of 1.21% Li_2O . In their 22 June 2015 announcement, AJM stated, the final paragraph stated :-

" The feasibility study and mining study will focus on identification of discrete high grade areas of the deposit....The aim of the study is to identify a high grade feedstock for the initial years of mining production circa 1.7% to 1.9% Lithium Oxide."

The size and grade of drill intercepts reported earlier would support this intention.

While the scoping study was based on processing 835kt/yr, Beer & Co has assumed that 1.0Mt/yr of ore will be mined each year.

Figure 31 shows the mining inventory assumed by Beer & Co in this analysis.

Figure 31 : Assumed Mining Inventory

Starter	2.5 Mt	1.60 %	40 kt
High grade	4.0 Mt	1.35 %	54 kt
Standard	12.5 Mt	1.20 %	150 kt
Low grade	6.0 Mt	1.00 %	60 kt
TOTAL	25.0 Mt	1.22 %	304 kt

Source : Beer & Co assumptions

Figure 31 shows that Beer & Co's assumed inventory is 25Mt compared with 26Mt of Resources, of which 19.8Mt is in the Indicated category.

It also shows that the assumed grade is 1.22% compared with 1.21% for the Resource grade.

Figure 32 shows the timeline estimated by Beer & Co for this analysis.

Note that we have made the brave assumption that, as a scoping study was published in November 2012, the feasibility study will be definitive.

Figure 32 : Timetable

Activity	Time	Completion
Feasibility Study		March 2016
Finance	3 months	June 2016
Construction	12 months	June 2017
Commission	2 months	August 2017

Source : Beer & Co estimates

Figure 33 shows Beer & Co's projected mining outcomes for AJM's Pilgangoora projects.

Figure 33 : Beer & Co's projected mine operations

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41
Ore mined	663 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt
waste : ore	3.1 : 1	3.2 : 1	3.4 : 1	3.6 : 1	3.8 : 1	4.0 : 1	4.2 : 1	4.4 : 1	4.6 : 1	4.8 : 1	6.6 : 1	6.8 : 1	7.0 : 1	7.2 : 1	7.4 : 1	7.6 : 1
Waste moved	2,024 kt	3,225 kt	3,425 kt	3,625 kt	3,825 kt	4,025 kt	4,225 kt	4,425 kt	4,625 kt	4,825 kt	6,625 kt	6,825 kt	7,025 kt	7,225 kt	7,425 kt	7,625 kt
Ore Processed	663 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt	1,000 kt
Li2O grade	1.60 %	1.60 %	1.60 %	1.37 %	1.35 %	1.35 %	1.35 %	1.21 %	1.20 %	1.20 %	1.20 %	1.12 %	1.00 %	1.00 %	1.00 %	1.00 %
Recovery	72 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %	80 %
Li2O recovered	7,672 t	12,800 t	12,800 t	10,975 t	10,800 t	10,800 t	10,800 t	9,705 t	9,600 t	9,600 t	9,600 t	8,940 t	8,000 t	8,000 t	8,000 t	8,000 t
Conc grade	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %	6.8 %
Li2O conc	112,824 t	188,235 t	188,235 t	161,397 t	158,824 t	158,824 t	158,824 t	142,721 t	141,176 t	141,176 t	141,176 t	131,471 t	117,647 t	117,647 t	117,647 t	117,647 t

Source : Beer & Co estimates

Figure 33 shows that Beer & Co has assumed :

- Production commences in about September 2017;
- 1.0Mt of ore is mined and processed;
- Mining starts at a relatively shallow area, with a strip ratio of 3.0, as per Figure 29a, and climbs continuously over the project life;
- The grades in the early years are highest, as shown in Figure 31, and is at the average grade for most of the project, before falling at the end of the project life.;
- Recovery of Li₂O in ore to concentrate is assumed to be 80%
 - This is the result of the testwork by Pilbara Minerals (PLS.ASX), while AJM have not provided any guidance
- A concentrate grade of 6.8%

Capital and Operating Costs

Figure 34 shows the detail of Beer & Co's estimated capital costs of \$82m for the construction of a 1.0Mt/yr plant.

This compares with \$93m for an operation processing 830kt/yr in the scoping study.

Beer & Co has assumed lower costs reflecting lower cost pressures in the industry at present, and also the fact that is a single product plant.

Figure 35 shows the staffing levels estimated by Beer & Co, and staff are the largest cost driver; we assume the staff levels even if the actual services are out-sourced.

Figure 34 : Capital Costs

Mine development	\$ 5m
Process plant, 1.0Mt/yr	\$ 50m
Roads, Water, Electrical	\$ 10m
other construction	\$ 5m
EPCM	\$ 7m
Other costs	\$ 2m
Working Capital	\$ 3m
TOTAL	\$ 82m

Source : Beer & Co estimates

Figure 35 : Beer & Co's estimated staffing levels

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2303-31
Waste														
Operators	18	27	29	30	32	34	33	30	31	32	34	35	36	37
Trades	3	4	4	5	5	5	5	4	5	5	5	5	5	6
Ore Mining														
Operators	7	10	10	10	10	10	10	10	10	10	10	10	10	10
Trades	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Drill & Blast	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Transport	0	0	0	0	1	1	1	2	2	2	2	2	2	2
Mining Overhead														
Professional	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Technical	3	3	3	3	3	3	3	3	3	3	3	3	3	3
drillers	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Processing														
Operators	14	20	20	20	20	20	20	20	20	20	20	20	20	20
Trades	4	5	5	5	5	5	5	5	5	5	5	5	5	5
Professional	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Admin & Overhead														
Operators	4	5	5	5	5	5	5	5	5	5	5	5	5	5
Technical	4	5	5	5	5	5	5	5	5	5	5	5	5	5
Professional	2	3	3	3	3	3	3	3	3	3	3	3	3	3
TOTAL	68	94	96	98	101	103	103	98	100	102	103	105	106	108

Source : Beer & Co estimates

Figure 35 shows that Beer & Co expects staffing levels to rise over time due to rising strip ratios and ore transport distance.

Figure 36 shows the detail of Beer & Co's estimated C1 costs, which is about \$A 44/t of ore mined and processed.

Figure 36 : Beer & Co's estimated C1 costs for AJM's Pilgangoora operations

LoM	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Waste	\$ 5.0m	\$ 7.6m	\$ 8.4m	\$ 9.1m	\$ 9.6m	\$ 10.1m	\$ 10.3m	\$ 9.8m	\$ 10.2m	\$ 10.6m	\$ 11.0m	\$ 11.4m
volume	2,024 kt	3,225 kt	3,425 kt	3,625 kt	3,825 kt	4,025 kt	4,225 kt	4,425 kt	4,625 kt	4,825 kt	5,025 kt	5,225 kt
Strip ratio	5.5 : 1	3.1 : 1	3.2 : 1	3.4 : 1	3.6 : 1	3.8 : 1	4.0 : 1	4.2 : 1	4.4 : 1	4.6 : 1	5.0 : 1	5.2 : 1
AUD /t ore	\$ 12.2/t	\$ 7.5/t	\$ 7.6/t	\$ 8.4/t	\$ 9.1/t	\$ 9.6/t	\$ 10.1/t	\$ 10.3/t	\$ 9.8/t	\$ 10.2/t	\$ 10.6/t	\$ 11.0/t
AUD /t material	\$ 2.2/t	\$ 2.5/t	\$ 2.4/t	\$ 2.5/t	\$ 2.5/t	\$ 2.5/t	\$ 2.4/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t	\$ 2.2/t
Ore Mining	\$ 2.9m	\$ 4.2m	\$ 4.3m	\$ 4.4m	\$ 4.6m	\$ 4.7m	\$ 4.7m	\$ 4.8m	\$ 4.9m	\$ 4.9m	\$ 5.0m	\$ 5.1m
AUD /t ore	\$ 7.8/t	\$ 7.8/t	\$ 6.8/t	\$ 6.9/t	\$ 7.0/t	\$ 7.2/t	\$ 7.3/t	\$ 7.4/t	\$ 7.5/t	\$ 7.6/t	\$ 7.6/t	\$ 7.7/t
Processing	\$ 7.8m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m	\$ 11.5m
AUD /t ore	\$ 11.5/t	\$ 11.8/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t	\$ 11.5/t
Admin & Overhead	\$ 2.8m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m	\$ 3.5m
AUD /t ore	\$ 3.5/t	\$ 4.2/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t	\$ 3.5/t
Concentrate Transport	\$ 7.4m	\$ 12.4m	\$ 12.4m	\$ 10.6m	\$ 10.4m	\$ 10.4m	\$ 10.4m	\$ 9.4m	\$ 9.3m	\$ 9.3m	\$ 9.3m	\$ 9.3m
AUD /t ore	\$ 9.4/t	\$ 11.2/t	\$ 12.4/t	\$ 10.6/t	\$ 10.4/t	\$ 10.4/t	\$ 10.4/t	\$ 9.4/t	\$ 9.3/t	\$ 9.3/t	\$ 9.3/t	\$ 9.3/t
	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t	\$ 66/t
TOTAL	\$ 44m	\$ 26m	\$ 39m	\$ 40m	\$ 39m	\$ 40m	\$ 40m	\$ 39m	\$ 39m	\$ 40m	\$ 40m	\$ 41m
	\$ 44/t	\$ 42/t	\$ 42/t	\$ 43/t	\$ 42/t	\$ 43/t	\$ 43/t	\$ 42/t	\$ 42/t	\$ 42/t	\$ 43/t	\$ 43/t

Source : Beer & Co estimates

Financial Evaluation

Figure 37 : Beer & Co's projected financial outcomes for AJM's Pilgangoora operations

AUD m	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
AUD/USD		0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
Spodumene, Chemical grade		US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t	US\$ 400/t
Li2O in concentrate	0t	7,672t	12,800t	12,800t	10,975t	10,800t	10,800t	10,800t	9,705t	9,600t	9,600t	9,600t	9,600t
Li2O concentrate	0 kt	113 kt	188 kt	188 kt	161 kt	159 kt	159 kt	159 kt	143 kt	141 kt	141 kt	141 kt	141 kt
Revenue	0	69	114	114	98	96	96	96	87	86	86	86	86
Cash Costs	0	28	42	43	42	42	43	43	42	42	42	43	43
Royalties	0	5	9	9	7	7	7	7	6	6	6	6	6
Dep'n & Amort'sn	0	3	7	7	7	7	7	7	7	7	7	7	7
E B I T	0	32	57	57	42	40	40	40	32	31	30	30	29
Feasibility / permitting	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Cap.Ex	(62)	(21)	0	0	0	0	0	0	0	0	0	0	0
Sus Cap. Ex	0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Cashflow, before tax, etc	(62)	13	62	61	47	45	44	44	37	35	35	34	34

Source : Beer & Co estimates

Figure 37 shows Beer & Co's projected financial outcomes for AJM's Pilgangoora project, before taking into account finances and tax.

It shows that Beer & Co assumes that feasibility / permitting is completed in the current financial year.

Figure 37 does NOT show that the cashflows in the late years, when the ore being processed is only 1.0% Li₂O, is only about half of that in the years when the grade is 1.20% Li₂O. Beer & Co regards this as a strong outcome.

Other AJM Operations

While the Pilgangoora spodumene project is AJM's focus project, AJM has a number of other interests.

Drilling Services

On 17 April 2007, HDN announced the expected acquisition of Minvest, which provides drilling, geophysics, project assessment and management services in Indonesia and Australia (and at that time, also in Madagascar). HDN announced the completion of this acquisition on 24 September 2007. The consideration was 45.6m fully paid HDN shares.

Figure 38 shows the results reported by HDN / AJM in the segmented reports in the Annual Report for each year.

Figure 38 : AJM's reported segment results for drilling

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
External Sales	\$ 9,054k	\$ 13,906k	\$ 8,014k	\$ 7,702k	\$ 8,680k	\$ 7,042k	\$ 7,445k	\$ 4,745k
AJM Services	\$ 711k	\$ 513k	\$ 729k	\$ 872k	\$ 1,364k	\$ 2,408k	\$ 2,582k	\$ 1,324k
E B I T	\$ 757k	(\$ 42k)	(\$ 36k)	\$ 1,250k	\$ 1,537k	(\$ 13k)	(\$ 131k)	(\$ 6,661k)
AJM services	\$ 178k							
Finance Costs	(\$ 69k)	(\$ 68k)	(\$ 597k)					
Assets	\$ 8,947k	\$ 7,892k	\$ 10,699k	\$ 10,063k	\$ 14,919k	\$ 8,171k	\$ 4,971k	\$ 4,450k
Liabilities	(\$ 2,089k)	(\$ 1,447k)	\$ 2,465k	\$ 1,218k	\$ 1,378k	\$ 1,580k	\$ 1,268k	\$ 2,051k
Cap.ex	\$ 1,298k	\$ 2,546k	\$ 336k	\$ 482k	\$ 354k	\$ 465k	\$ 183k	\$ 45k
Dep'n & Amot'n	\$ 406k	\$ 1,312k	\$ 796k	\$ 633k	\$ 624k	\$ 621k	\$ 600k	\$ 752k
net Cashflow								
operations	\$ 1,017k	\$ 1,239k	(\$ 1,453k)	\$ 49k	(\$ 103k)			
investment	(\$ 4,614k)	(\$ 703k)	\$ 1,368k	(\$ 482k)	(\$ 354k)			
financing	\$ 4,010k	(\$ 711k)	\$ 796k	(\$ 57k)	(\$ 404k)			

Source : AJM Annual Reports, Beer & Co

While there may be perceived strategic value in AJM's drilling services segment, it has generated cash in some years and not others, depending on the state of the industry.

Indonesian Coal

AJM has 2 assets in its Indonesia coal business.

On 18 November 2014, AJM announced that it would seek to spin out its Indonesian coal interests into a separate company to be listed on the Singapore Exchange (SGX), and that the new company would have 100% of Delta Coal and at least AJM's 70% of Tabalong.

AJM intends to retain 2 seats on a 5 seat Board, but the share it retains of the new entity will depend on valuation.

At its AGM presentation in November, AJM stated that

- The process is substantially complete; and
- AJM's plan is to finalise the Offer Document and submit it to the SGX by the year end.

It will then depend on how long approval will take as to when in 2016 the float will be undertaken.

Tabalong

In May 2007, HDN announced that it expected to secure a 2 year option to acquire a 70% stake in two Indonesian coal projects, which are referred to as Tabalong Coal.

AJM determined that, given the success of its Board with New Hope Coal (NHC.ASX), it would pursue a goal of becoming a significant South-East Asian coal producer.

On 27 March 2012, AJM announced that it had secured an extra tenement to expand Tabalong.

On 23 April 2012, AJM announced that it had entered into an agreement to acquire further coal interests near Tabalong.

On 20 August 2012, AJM announced that it had completed due diligence and executed sales and purchase agreements to acquire the extra coal interests.

Consideration was reported as

- US\$ 1m for each of the 2 projects; plus
- A US\$ 2.50/t royalty for each tonne of coal mined and sold; plus
- Carrying the vendors through to positive cashflow from the developed projects, with the funds to be repaid through project cashflows; plus
- A loan of US\$ 4m to the vendors to assist the vendors in developing long-term transport solution for Tabalong, with the loan to be re-paid out of royalties due

AJM will manage the projects with input from each of the local partners.

However, at the time of publication of AJM's 2015 Annual report, Tabalong still required a further forestry permit.

Tabalong is a high quality thermal coal project in Kalimantan. However, it is about 110km from the nearest river port. At current coal prices, transport to the river port, loading and barge transport to an ocean going vessel consumes most of the revenue.

Delta Coal

On 13 February 2013, AJM announced the acquisition of a one-third stake in Delta Coal, which is an operating coal mine in East Kalimantan, not far from Tabalong.

Delta produces typical Indonesian thermal coal, with low ash and modest energy, with 4,400kCal/kg on an "as received" basis.

Consideration was USD 25m, of which half was paid on acquisition and the balance to be paid over the next 3 years.

Given AJM's management experience in coal, AJM controls the operational management.

AJM stated that Delta is producing at the 1.5Mt/yr ate and has plans to increase to 2.0Mt/yr of coal. It produced 1,376kt and sold 1,330kt in FY14, and 973kt for 1,078kt of sales in FY15.

Figure 39 extracts data from the note to AJM's Annual reports showing segment results.

Figure 39 shows that, due to declining coal prices plus operational under-performance, AJM's coal operations have struggled to make a positive contribution.

Figure 39 : Coal financial performance

	2012-13	2013-14	2014-15
Segment Result	\$ 0.1m	(\$ 0.3m)	(\$ 11.5m)
Assets	\$ 26.5m	\$ 25.8m	\$ 19.5m
Liabilites	\$ 12.8m	\$ 13.0m	\$ 16.5m

Source : AJM Annual Reports, Beer & Co

Philippine Coal

On 12 February 2013, AJM announced that it had been awarded 3 coal operating contracts in The Philippines, pursuant to bids made in March 2012.

The coal is intended, over the longer term, to feed local Philippine demand, due to the plans to construct a further 7 coal fired power plant, in addition to the 8 currently operating coal fired power plants in The Philippines.

15% stake in Lithium Corporation

On 30 October 2012, AJM that it taken a placement of 11.0m shares in Lithium Corporation, a company based on the US state of Nevada, listed on Nadaq's Over-The-Counter Bulletin Board (LTUM.OTCBB). This accounted for about 15% of the company's issued capital.

At that time, LTUM owned the Fish lake and San Emidio brine lithium and potash targets in Nevada.

On 21 August 2014, LTUM announced that it had sold its interests its 2 brine targets and also a graphite prospect in British Columbia (Canada) for US\$ 2.55m plus shares in the acquirer. However, this agreement failed to settle.

In its 2015 accounts, AJM listed this investment as a Non-Current, Available for Sale Financial Asset.

The most recent trade was at US 2.92c (Aus 4.1c, at AUD-USD rate of 0.710), giving a current value for AJM's 11.0m shares of AUD 452k.

Mt Webber Iron Ore

On 15 January 2008, HDN announced that it had granted an option to Atlas Iron (AGO.ASX) for AGO to acquire the rights to the iron ore at Mt Webber, which is part of the tenement package acquired in the acquisition of Australian Tantalum Limited.

After feasibility assessment, permitting and approvals, the decision to develop the Mt Webber iron ore, direct shipping ore, project was announced on 8 July 2013, with first ore being sent to port on 5 July 2014.

The project was developed as a joint venture, but with AGO lending to AJM the funds required for AJM's contribution, to be re-paid from the cashflows of the operation.

However, the significant fall in the price of iron ore, as shown in Figure 26, led AJM to announce, on 24 December 2014, that it had agreed with AGO for AJM to sell its share of the Mt Webber project to AGO.

The consideration for the sale of AJM's stake was :

- Reported as approx. \$A 22m, being the amount that AJM owed for development plus required monthly cash calls for operations; plus
- A royalty payable to AJM of 1% of the FOB price of iron ore above AUD 95/t for ore extracted from AJM's tenement areas.

Figure 40 : Iron Ore prices



Source : Bloomberg, Beer & Co

In Beer & Co's view, the iron ore price will NOT get above AUD 95/t on an FOB basis.

Beer & Co valuation

Projected Cashflows

Figure 37 showed Beer & Co's projected cashflows for the Pilgangoora project.

The discussion above showed that the balance of AJM's operations are not projected to add value, but mining services will add both revenue and costs.

Figure 41 shows Beer & Co's projected cashflows for AJM as an entity, which are very similar to those shown in Figure 37, other than :

- Slightly higher revenue and costs due to the mining services segment;
- Corporate costs; and
- The impact of financing, through interest and tax expenses.

Figure 34 also shows that Beer & Co has assumed that

- AJM raises a total of about \$5m in equity in FY16, comprising
 - \$1.5m in equity raised soon, at a discount to the current share price; plus
- \$4m raised through the exercise of 197.7m options, exercisable at 2c by 30 June 2016
- AJM funds the development of the \$82m Pilgangoora project, by :
 - 65% project finance (ie. \$53m); and
 - The balance by equity, issuing 600m new shares.

Figure 41 : Beer & Co's projected financial outcomes for AJM

AUD m	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Sales revenue	5	5	69	115	119	103	101	101	101	91	91	91
Total Revenue	5	5	69	116	120	104	103	104	104	95	94	95
Cost of Goods Sold	(5)	(5)	(33)	(47)	(48)	(47)	(48)	(48)	(48)	(47)	(47)	(48)
Royalties	0	0	(5)	(8)	(9)	(7)	(7)	(7)	(7)	(6)	(6)	(6)
Corporate Costs	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
EBITDA	(2)	(2)	29	59	62	49	47	47	47	40	39	39
Dep'n & Amort'sn	0	0	(3)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
Interest Expense	0	0	(4)	(4)	(4)	(3)	(2)	(1)	(0)	(0)	(0)	(0)
Pre-Tax Profit	(2)	(2)	22	48	52	39	39	39	40	33	32	32
Tax Expense	0	0	(7)	(14)	(16)	(12)	(12)	(12)	(12)	(10)	(10)	(10)
NPAT	(2)	(2)	16	34	36	28	27	28	28	23	23	23
Exploration + Feasibility	2	0	0	0	0	0	0	0	0	0	0	0
Maintenance Capex	0	0	2	2	2	2	2	2	2	2	2	2
Expansion Capex	0	62	21	0	0	0	0	0	0	0	0	0
Change in Equity	5	29	0	0	0	0	0	0	0	0	0	0
Change in Debt		50	0	(9)	(10)	(11)	(12)	(8)	(0)	0	0	0
Ordinary shares - year end	1,123m	1,740m	1,744m	1,744m	1,744m	1,744m	1,744m	1,744m	1,744m	1,744m	1,744m	1,744m
Earnings per Share	(0.2c)	(0.1c)	0.9 c	1.9 c	2.1 c	1.6 c	1.6 c	1.6 c	1.6 c	1.3 c	1.3 c	1.3 c

Source : Beer & Co estimates

Figure 41 also shows that Beer & Co estimates that AJM is currently trading at about 2.1x FY19, when we project that Pilgangoora will be in full production.

Base Case Valuation

Figure 42 shows the detail of Beer & Co's risked, base case, valuation of AJM.

Figure 28 : Beer & Co's base case valuation of AJM

discount rate = 12.0 %		30 June 2015			1-Feb-16
	risk :	100%	Product	per share	
Pilgangoora Resources	70 %	\$ 235m	\$ 164m	9.8 c	10.4 c
franking credits	42 %	\$ 39m	\$ 16m	1.0 c	1.0 c
Pilgangoora Extensions	55 %	\$ 5m	\$ 3m	0.2 c	0.2 c
franking credits	33 %	\$ 1m	\$ 0m	0.0 c	0.0 c
Indonesian Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mininig Services	70 %	(\$ 2m)	(\$ 2m)	(0.1c)	(0.1c)
Philippines Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mt Webber Iron Ore	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Lithium Corp	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Corporate	100 %	(\$ 12m)	(\$ 12m)	(0.7c)	(0.7c)
Cash / Debt	100 %	(\$ 15m)	(\$ 15m)	(0.9c)	(0.2c)
Equity raisings	100 %	\$ 27m	\$ 27m	1.6 c	1.5 c
TOTAL		\$ 278m	\$ 182m	10.9 c	12.1 c
Shares on issue	837.7m	F P O shares	197.7m	Options	
	35.3m	2015 - 16	197.7m	Ops. Ex'd	
	593.6m	later	9.1m	Perf Rights	

Source : Beer & Co estimates

Figure 42 shows :

- Beer & Co has applied a risk weighting to the calculated NPV, to account for the unknowns in delivery and costs
 - This risk penalty will be reduced as the company executes its feasibility studies, financing and commissioning
- Beer & Co's valuation is dominated by the indicated resources at Pilgangoora;
- Beer & Co has ascribed a small, negative value to AJM's mining services division, and a zero value to AJM's coal and iron ore interests, and a trivial value to its investment in LTUM.

The debt shown in Figure 28, of \$15m, is related to the purchase of Delta Coal and Beer & Co expects it will be part of the entity to be listed on the SGX.

Sensitivity Analyses

This analysis has required Beer & Co to make its own estimates for factors including :

- Capital costs, though this is informed by both AJM's October 2012 scoping study and also Pilbara Minerals' (PLS) guidance;
- Operating costs, even though these are informed by AJM's scoping study, PLS's guidance and Beer & Co's analysis of other operations in the region;
- The price to be received for AJM's concentrate, even though we have some guidance from PLS
 - This will depend partly on the iron levels and also on AJM's marketing.

Capital and Operating Costs

Figure 43 shows the sensitivity of Beer & Co's valuation with regard to changes in both capital costs and operating costs.

In this analysis, Beer & Co has allowed for higher debt and equity funding, with the proportion of debt funding declining from the base case of 65% down to 57.5% when capital costs are 25% higher, and 50% when capital costs are 50% higher.

Figure 43 shows that the conclusions are robust even to significant increases in both capital and operating costs.

In this analysis, Beer & Co has allowed for higher debt and equity funding, with the proportion of debt funding declining from the base case of 65% down to 57.5% when capital costs are 25% higher, and 50% when capital costs are 50% higher.

Figure 43 : Costs Sensitivity

Op.Ex \ Cap.ex	Base	+ 25 %	+ 50 %
Base	12.1 c	10.2 c	8.6 c
+ 10 %	10.6 c	8.9 c	7.6 c
+ 20 %	9.1 c	7.7 c	6.5 c

Source : Beer & Co estimates

Figure 43 shows that the conclusions are robust even to significant increases in both capital and operating costs.

Product Prices

Figure 27 showed that lithium carbonate prices have increased strongly recently. While Figure 28 does not show the increase for spodumene prices, all the prices in Figure 28 are higher than 6 months back.

In our base case analysis, Beer & Co has used a cif price of US\$ 400/t, which Figure 28 shows is lower than the prices for low grade product. Figure 28 also shows that there is a significant difference in value between low grade and high grade material (pure spodumene is about 8.1% Li₂O)

The metallurgical testwork suggests that AJM should produce a grade of about 7%, and could produce 7.5%, with lower recoveries, if that is the conclusion of the economic analysis.

Beer & Co's analysis assumes a product grade of about 6.8% with overall recoveries of 80%, which are likely to prove conservative.

Also, Beer & Co is wary that at least some of the recent price rise will prove to be unsustainable over the longer run.

Figure 44 shows that there is significant upside to Beer & Co's risked base case valuation of AJM for higher prices.

Figure 44 : Sensitivity to prices

Risked	US\$ 400 /t	US\$ 450 /t	US\$ 500 /t
Battery 100%	12.1 c	16.0 c	19.9 c
Glass-ceramics 25%	15.1 c	19.0 c	22.8 c

Source : Beer & Co estimates

If AJM is able to produce a concentrate of over 7% Li₂O, then Figure 28 suggests a value of about US\$ 650/t, which Figure 12 suggests would give a risked base case valuation of over 30c/share.

Further, Figure 44 shows further upside, from 15% to 25%, if AJM is able to supply high Li₂O / low Fe product for the ceramics and glass markets.

Risk

Beer & Co's base case valuation is risked. Figure 45 shows that there is significant further upside to Beer & Co's valuation of AJM from successful delivery of the project.

Figure 45 : Sensitivity to prices and risking

Un-risked	US\$ 400 /t	US\$ 450 /t	US\$ 500 /t
Battery 100%	17.1 c	22.7 c	28.3 c
Glass-ceramics 25%	21.4 c	27.0 c	32.5 c

Source : Beer & Co estimates

Conclusions

Outline

The tenements for AJM's Pilgangoora spodumene (or hard rock lithium) project were acquired in 2001, with a focus on the prospectivity for tantalite.

The demand for lithium ores has increased, partly as a result of the maturing of energy storage technologies, with consequent declines in cost, and also an increase in demand associated with a shift to "green energy".

AJM has a very experienced Board, with success in coal. While it has been focussed on coal, coal prices are now so low that survival is difficult, leave alone value generation.

Final Comment

Beer & Co's analysis shows that

- AJM's Pilgangoora project is a robust and valuable project.
- AJM has significant upside to Beer & Co's valuation from project delivery as expected, with the un-risked (ie. successful delivery) valuations about 40% higher than the risked valuations;
 - AJM's management has a track record for successful project delivery.
- If AJM is able to sell into the glass/ceramics market, which requires low iron spodumene, which might require higher operating and capital costs for a magnetic separation circuit to reduce iron levels, then the value could be 30% higher in the base case;

In our view, the value in the company will become more apparent when

- The feasibility study on Pilgangoora is published; and
- AJM has exited its Indonesian coal operations, which require significant time and attention for a poor return; and
- AJM can focus on promoting the Pilgangoora project to both equity investors and also end customers.

We initiate research on Alutura Mining (AJM) with a BUY, High Risk, recommendation.

Board and Management

James Brown, Managing Director

James is a mining engineer with more than 25 years' experience in the coal mining industry in Australia and Indonesia, including 22 years at New Hope Corporation. James was appointed Managing Director of Altura in September 2010 and was previously Group General Manager since December 2008.

His coal development and operations experience includes:

- New Acland (4 Mtpa), Jeebropilly (2 Mtpa) and New Oakleigh (0.75 Mtpa) SE Qld
- PT Adaro (25 Mtpa) and PT Multi Harapan Utama (2 Mtpa) Kalimantan, Indonesia
- Blair Athol (13 Mtpa) Bowen Basin, Central Qld.

Paul Mantell, Non-Executive Director

Paul has more than 30 years' corporate experience as an accountant in mining and associated industries, including 28 years at New Hope Corporation, the last 12 years as Chief Financial Officer. His project finance operations experience includes:

- New Acland (4 Mtpa), Jeebropilly (2 Mtpa) and New Oakleigh (0.75 Mtpa) SE Qld
- PT Adaro (25 Mtpa) and PT Multi Harapan Utama (2 Mtpa) Indonesia
- PT Indonesia Bulk Terminal and Queensland Bulk Handling (Brisbane) facilities.

He was appointed a director in May 2009.

Allan Buckler, Non-Executive Director

A qualified mine manager with more than 40 years' coal experience in Australia and Indonesia, Allan joined Altura in December 2008. He has had key roles in the establishment of several large mining and port operations in both Australia and Indonesia.

Allan is a former Director and Chief Operations Officer of New Hope Corporation Limited and has led the development of significant operations including PT Adaro Indonesia, PT Indonesia Bulk Terminal and PT Mult Harapan Utama in Indonesia.

BT Kuan, Non-Executive Director

BT is a mechanical engineer with considerable experience in bulk handling and terminal operations, including responsibility for the development and management of the Indonesia Bulk Terminal at Pulau Laut in South Kalimantan, Indonesia.

He also has experience in Indonesia, Malaysia and Singapore with other minerals and soft commodities including tin dredging operations, managing rubber, palm oil and cocoa processing factories, and managing palm oil bulk terminals. BT was appointed a director in November 2007.

Dan O'Neill, Non-Executive Director

Dan is a geologist with over 30 years' of international mining experience, having worked across Australasia, Africa, Asia and North America.

Dan has held positions with a number of Australian and multinational exploration companies, as well as managed exploration programs in a diverse range of environments and locations, including Botswana, North America, South East Asia, North Africa and Australasia.

During his career, Dan has held executive management positions with ASX listed companies and has worked on a range of commodities including diamonds, gold, base metals, coal, oil and gas. He was appointed a director on 18 December 2008.

Chris Evans, General Manager, Operations

Chris is an experienced civil engineer and project manager with specific expertise in mine development and civil construction.

He was Project manager for the Mt Webber mine development for Atlas Iron from January 2013 to May 2015, prior to which he was a project manager for Mount Gibson Iron at Koolan island, Western Australia.

From 2002 to 2007, Chris was an engineering and construction officer with the Australian Army with experience in Australia and Papua New Guinea.

Beer & Co Research

Altura Mining (AJM.ASX)

February 2016

Year ended June		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Section 1 - P&L									
Sales revenue	\$A m	5	5	5	73	119	119	103	101
Interest revenue	\$A m	0	0	0	0	1	1	2	2
Other revenue	\$A m	5	0	0	0	0	0	0	0
Total Revenue	\$A m	10	5	5	73	120	120	105	103
Cost of Goods Sold	\$A m	(4)	(5)	(5)	(33)	(47)	(48)	(46)	(47)
Royalties	\$A m	0	0	0	(5)	(9)	(9)	(7)	(7)
Corporate Costs	\$A m	(5)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Exploration Expense	\$A m	(0)	0	0	0	0	0	0	0
Other Operating Expenses	\$A m	(16)	0	0	0	0	0	0	0
Total Operating Expenses	\$A m	(25)	(7)	(7)	(40)	(57)	(58)	(55)	(56)
EBITDA	\$A m	(16)	(2)	(2)	33	63	63	49	48
Dep'n & Amort'n	\$A m	(1)	0	0	(3)	(7)	(7)	(7)	(7)
EBIT	\$A m	(17)	(2)	(2)	30	56	56	43	41
Interest Expense	\$A m	(0)	0	0	(4)	(4)	(4)	(3)	(2)
Other	\$A m	(13)	0	0	0	0	0	0	0
Pre-Tax Profit	\$A m	(30)	(2)	(2)	26	52	53	40	39
Tax Expense	\$A m	(0)	0	0	(8)	(16)	(16)	(12)	(12)
NPAT	\$A m	(30)	(2)	(2)	19	36	37	28	28

Section 2 - Key Data

Ordinary shares - year end	m	837.7	1,126	1,722	1,726	1,726	1,726	1,726	1,726
Fully diluted shares on issue	m	1,044.3	1,132	1,726	1,726	1,726	1,726	1,726	1,726
Weighted # shares	m	489.8	946	1,721	1,725	1,726	1,726	1,726	1,726
Earnings per Share		(3.5c)	(0.2c)	(0.1c)	1.1 c	2.1 c	2.1 c	1.6 c	1.6 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	5	2	27	73	109	133	156
Receivables	\$A m	3	1	1	13	15	15	13	13
Other	\$A m	2	0	0	0	0	0	0	0
CURRENT ASSETS	\$A m	7	5	3	40	88	124	145	169
Receivables	\$A m	2	0	0	0	0	0	0	0
P, P & E	\$A m	1	1	63	83	78	74	70	65
Mining Properties / Exploration	\$A m	15	16	16	16	16	16	15	15
Other	\$A m	21	0	0	0	0	0	0	0
NON-CURRENT ASSETS	\$A m	39	18	79	99	94	90	85	80
TOTAL ASSETS	\$A m	46	23	82	139	182	213	230	249
Payables	\$A m	3	1	1	5	6	6	6	6
Debt	\$A m	0	0	0	9	10	11	12	8
Other	\$A m	1	0	0	0	0	0	0	0
CURRENT LIABILITIES	\$A m	4	1	1	15	16	17	18	13
Long Term Debt	\$A m	17	0	50	41	31	20	8	0
Other	\$A m	0	0	0	0	0	0	0	0
Provisions	\$A m	0	0	0	0	0	0	0	0
NON-CURRENT LIABILITIES	\$A m	17	0	50	41	31	20	8	0
TOTAL LIABILITIES	\$A m	21	1	51	56	47	37	25	13
NET ASSETS	\$A m	26	22	31	83	135	177	205	236
Accumulated Profit (Loss)	\$A m	(54)	(56)	(58)	(39)	(3)	34	62	90
Reserves	\$A m	0	(6)	(24)	10	25	30	30	34
Contributed Equity	\$A m	79	84	112	112	112	112	112	112
	\$A m	25	22	31	83	135	177	205	236
Minority Interest	\$A m	0	0	0	0	0	0	0	0
Total Equity	\$A m	26	22	31	83	135	177	205	236

Section 4 - Cashflow

Net Cashflow from operations	\$A m	0	(2)	(2)	33	63	63	49	48
Net Interest Paid	\$A m	(0)	0	0	(4)	(4)	(2)	(1)	1
Taxes Paid	\$A m	0	0	0	0	(1)	(11)	(10)	(8)
Change in Working Capital	\$A m	(0)	0	0	(8)	(1)	0	2	0
OPERATING CASHFLOW	\$A m	(0)	(2)	(2)	22	57	50	41	40
Exploration + Feasibility	\$A m	0	2	0	0	0	0	0	0
Maintenance Capex	\$A m	0	0	0	2	2	2	2	2
Expansion Capex	\$A m	0	0	62	21	0	0	0	0
PPE Acquisitions (Total Capex)	\$A m	0	2	62	23	2	2	2	2
PPE Divestments	\$A m	0	0	0	0	0	0	0	0
INVESTING CASHFLOW	\$A m	0	2	62	23	2	2	2	2
Change in Equity	\$A m	0	5	28	0	0	0	0	0
Dividends Paid	\$A m	0	0	0	0	0	0	0	0
Change in Debt	\$A m	17	(17)	50	0	(9)	(10)	(11)	(12)
FINANCING CASHFLOW	\$A m	17	(12)	78	0	(9)	(10)	(11)	(12)
Free Cashflow	\$A m	(0)	(0)	60	44	59	52	43	42
Net Cashflow	\$A m	17	(12)	138	44	49	41	31	30

Commodity price assumptions

Year ended June	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
AUD/USD	0.711	0.700	0.700	0.700	0.700	0.700
Spodumene, Chemical grade	400	400	400	400	400	400
Spodumene, Industrial grade	600	600	600	600	600	600

Mine Production / Sales, contained product

Spodumene, chemical grade, tonnes	0	7,672	12,800	12,800	10,975
Spodumene, industrial grade, tonnes	0	0	0	0	0

Resources, Reserves and assumed mining inventory

Pilgangoora Mineral Resources

Resources	cut-off	Li2O	
Category	Li2O	grade	contained
Measured	0.80 %	0 Mt	0 t
Indicated	0.80 %	19.77 Mt	239,000 t
Inferred	0.80 %	6.29 Mt	76,000 t
TOTAL		26.06 Mt	315,000 t

Beer & Co estimated mining inventory, Pilgangoora

Table 2-3 Estimated Mining Inventory, Tonnages			
	Li2O		
		grade	contained
Starter	2.5 Mt	1.60 %	40 kt
High grade	4.0 Mt	1.35 %	54 kt
Standard	12.5 Mt	1.20 %	150 kt
Low grade	6.0 Mt	1.00 %	60 kt
TOTAL	25.0 Mt	1.22 %	304 kt

Asset based Valuation

discount rate = 12.0 %	30 June 2015			1-Feb-16	
	risk :	100%	Product	per share	
Pilgangoora Resources	70 %	\$ 235m	\$ 164m	9.8 c	10.4 c
franking credits	42 %	\$ 39m	\$ 16m	1.0 c	1.0 c
Pilgangoora Extensions	55 %	\$ 5m	\$ 3m	0.2 c	0.2 c
franking credits	33 %	\$ 1m	\$ 0m	0.0 c	0.0 c
Indonesian Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mining Services	70 %	(\$ 2m)	(\$ 2m)	(0.1c)	(0.1c)
Philippines Coal	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Mt Webber Iron Ore	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Lithium Corp	70 %	\$ 0m	\$ 0m	0.0 c	0.0 c
Corporate	100 %	(\$ 12m)	(\$ 12m)	(0.7c)	(0.7c)
Cash / Debt	100 %	(\$ 15m)	(\$ 15m)	(0.9c)	(0.2c)
Equity raisings	100 %	\$ 27m	\$ 27m	1.6 c	1.5 c
TOTAL		\$ 278m	\$ 182m	10.9 c	12.1 c
Shares on issue	837.7m	P O share:	197.7m	Options	
	35.3m	2015 - 16	197.7m	Ops. Ex'd	
	593.6m	later	9.1m	Perf Rights	

Financial Ratios

Year ended June		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Revenue	\$A m	5	5	73	120	120	105
EBITDA	\$A m	(16)	(2)	(2)	33	63	63
EBIT	\$A m	(17)	(2)	(2)	30	56	56
NPAT (reported)	\$A m	(30)	(2)	(2)	19	36	37
Adjusted EPS (cps)		(3.5c)	(0.2c)	(0.1c)	1.1 c	2.1 c	2.1 c
EPS Growth (%)			94 %	50 %	1,069 %	96 %	1 %
DPS (c)		0.0 c	0.0 c	0.0 c	0.0 c	0.0 c	0.0 c
Dividend Yield (%)		0 %	0 %	0 %	0 %	0 %	0 %
PE adj. (x)	x	(0.7)	(26)	(52)	5.4	2.8	2.7
EV / EBITDA (x)	x	(2)	(29)	(78)	3.7	1.1	0.4
EV / EBIT (x)	x	(2)	(29)	(78)	4.1	1.2	0.4
Gearing (%)		0 %	61 %	36 %	23 %	14 %	9 %
Return on Assets		(9%)	(2%)	22 %	31 %	26 %	19 %
Return on Equity		(9%)	(6%)	22 %	27 %	21 %	14 %
EBITDA Margin (%)		(333%)	(43%)	(40%)	46 %	53 %	53 %
Interest Cover (x)	x	(62.4)	n/a	n/a	7.8	12.9	15.9

Shareholdings

Board & Management			Others		
Allan Buckler	146.411m	17.5 %	Maxwell Smith	139.387m	16.6 %
Paul Mantell	25.363m	3.0 %	Farjoy Pty Ltd	48.712m	5.8 %
James Brown	20.018m	2.4 %	Navibell Services Ltd.	34.892m	4.2 %
Beng Kuan	15.183m	1.8 %	TOTAL	222.991m	26.6 %
Dennis O'Neill	10.778m	1.3 %			
TOTAL	217.754m	26.0 %			

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

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