

PILBARA MINERALS LTD (PLS)

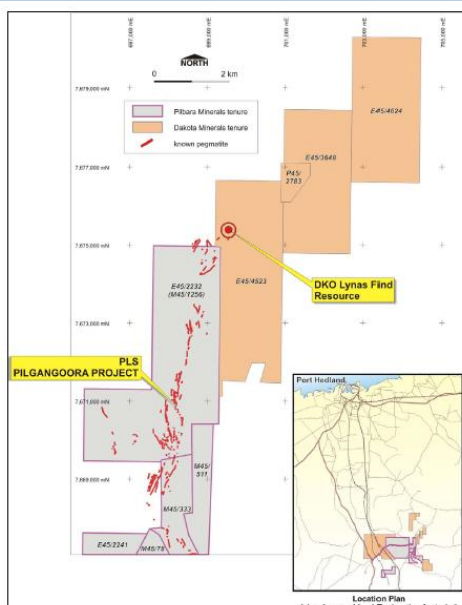
Signs offtake for DSO (1.4% min. Li₂O) product

Pilbara Minerals Ltd has signed an offtake for DSO spodumene (1.5% Li₂O) for 1.9Mt over two years from around July 2017 to Shandong Ruifu. In our view, this is a significant industry announcement and points to strong spodumene demand. DSO product will be either from the Pilgangoora flagship project or from recently acquired DKO neighbouring ground called Lynas Find (resource estimate of 7.3Mt @ 1.25% Li₂O, 85ppm Ta₂O₅ and 0.99% Fe₂O₃). The agreement includes a US\$10M pre-payment. Based on a benchmark 5.5% spodumene price of US\$600, we estimate that the DSO product could sell for US\$100-130/t (on a lithium unit equivalence price, US\$600/t equates to US\$120/t including estimated recovery factors). This does not assume much of a penalty discount for the low grade, which we believe is correct based on current strong demand. We estimate that the value of the DSO is ~US\$190m-250m of revenue, with back-of-the-envelope costs of ~\$95m (~US\$50/t). This equates to value for PLS of A\$0.07-0.11, undiscounted. Pilbara is also negotiating a separate off-take agreement for the traditional supply of spodumene concentrate to Shandong Ruifu.

Retain Buy...biggest hurdles are now in the rear view mirror

The recent resolution to the offtake disagreement with MIN.asx means that PLS is now back in control of offtake and hence development. The Company still has ~200kt of uncontracted spodumene (currently only 140kt is contracted) and needs arrange debt financing. Remember though, the strategy is to leave ~25% of product uncontracted (for spot sales or downstream processing), and hence we expect only ~100kt of offtakes to be announced. Today's announcement suggests such an offtake is likely, but we also note that competition for long term offtake is increasing (KDR looks like it has a very large, pre-resource, deposit at Mt Holland). We maintain our Buy for PLS, with a valuation of \$1.03.

Fig. 1: DSO product from either Pilgangoora or Lynas Find



Source: PLS

Share Price	\$0.535
Valuation	\$1.03
Price Target (12 month)	\$1.00

Brief Business Description:

Very large spodumene development in WA

Hartleys Brief Investment Conclusion

Very large deposit that looks highly economic.

Chairman & MD

Tony Kiernan (Non-exec Chair.)

Ken Brinsden (MD)

Major Shareholders

Mineral Resources (8.3% ord, 7.7% dil.)

General Lithium (0.0% ord, 4.2% dil.)

Company Address

130 Stirling Hwy,
North Fremantle, WA, 6159

Issued Capital

1259.5m	
- fully diluted	1368.6m

Market Cap

A\$673.8m	
- fully diluted	A\$732.2m

Cash (30 Sep 16a)

A\$94.0m

Debt (30 Sep 16a)

A\$0.0m

EV

A\$579.8m

EV/Resource Spod.

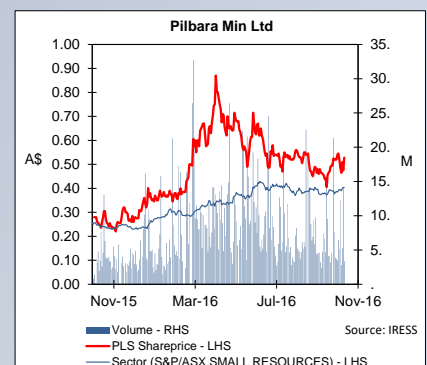
A\$20.9/t

EV/Reserve Spod.

A\$39.6/t

	Prelim. (A\$m)	FY19e	FY20e	FY21e
Prod (Li Spod. eq)	0.350	0.353	0.355	
Op Cash Flw	156.9	147.4	115.9	
Norm NPAT	157.3	125.0	93.8	
CF/Share (cps)	11.9	9.3	7.0	
EPS (cps)	15.9	12.2	9.0	
P/E	4.5	5.8	7.7	

	Mt	Li ₂ O	Spod.
Resources (Li ₂ O)	135.9	1.23%	27.8
Reserve (Li ₂ O)	69.8	1.26%	14.7



Trent Barnett

Head of Research

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Hartleys has assisted in the completion of part of a capital raising in the past 12 months for Pilbara Mines Limited.

SUMMARY MODEL

Pilbara Min Ltd							Share Price		10 November 2016						
PLS							\$0.535		Buy						
Key Market Information									Company Information						
Share Price							\$0.535		Tony Kiernan (Non-exec Chair.)						
Market Capitalisation - ordinary							A\$732m		130 Stirling Hwy,						
Net cash							A\$94m		North Fremantle, WA, 6159						
Market Capitalisation - fully diluted							A\$732m		Neil Biddle (Non-exec)						
EV							A\$638m		Ph +61 8 9336 6267						
Issued Capital							1259.5m		Robert Adamson (Non-exec)						
									John Young (Non-exec., Technical)						
									Brian Lynn (CFO)						
									www.pilbaraminerals.com.au						
Options (inc General Lithium placement)							109.1		Top Shareholders						
Issued Capital (diluted for options)							1368.6m		Ord Dil						
Issued Capital (diluted inc. options and new capital)							1368.6m		% %						
									Mineral Resources						
									General Lithium						
									8.3% 7.7%						
									0.0% 4.2%						
12month price target							\$1.00		Reserves & Resources						
									Mt Li % Ta ₂ O ₅						
P&L							Unit		Pilgangoora						
							30 Jun 17		M+I						
							30 Jun 18		Inf						
							30 Jun 19		Pilgangoora						
							30 Jun 20		Total						
							30 Jun 21		Lynas Find						
Net Revenue							A\$m		Total						
Total Costs							A\$m		Pilgangoora						
EBITDA							A\$m		Reserve						
- margin									69.8 1.26% 132						
Depreciation/Amort							A\$m		Global						
EBIT							A\$m		Total						
Net Interest							A\$m		Global						
Pre-Tax Profit							A\$m		Reserve						
Tax Expense							A\$m		135.9 1.23% 135						
Normalised NPAT							A\$m		69.8 1.26% 132						
Abnormal Items							A\$m		Production Summary						
Reported Profit							A\$m		Unit						
Minority							A\$m		Jun 17 Jun 18 Jun 19 Jun 20 Jun 21						
Profit Attrib							A\$m		Processed Mill Throughput						
									Mt						
									LCE equiv (0.135x Spod)						
									ktpa						
									29.6 47.3 47.6 47.9						
									Mine Life						
									yr						
									39.50 38.50 37.50 36.50						
									Assumed Mining Inventory						
									Mt						
									71.0 69.0 67.0 65.0						
									Assumed Mining Inventory - Li grade						
									%						
									1.22% 1.22% 1.21% 1.21%						
									Assumed Mining Inventory - Tant grade						
									ppm						
									130 130 130 130						
									Capex						
									-						
									-177.0 -51.0 0.0 0.0 0.0						
									Costs						
									Unit						
									Jun 17 Jun 18 Jun 19 Jun 20 Jun 21						
									Cost per milled tonne						
									\$A/t						
									51.0 50.2 50.2 50.2						
									EBITDA / tonne milled ore						
									\$A/t						
									122.7 118.7 95.3 72.7						
									Total cost per milled tonne						
									\$A/t Spod. Batt. eq						
									68.5 68.4 66.7 65.2						
									C1: Operating Cash Cost = (a)						
									\$A/t Spod. Batt. eq						
									391.3 390.7 378.7 367.3						
									(a) + Royalty = (b)						
									\$A/t Spod. Batt. eq						
									291.4 287.0 284.9 282.9						
									C2: (a) + depreciation & amortisation = (c)						
									\$A/t Spod. Batt. eq						
									369.7 363.7 350.3 337.9						
									(a) + actual cash for development = (d)						
									\$A/t Spod. Batt. eq						
									358.7 333.1 330.8 328.5						
									AISC: (c) + Royalty						
									\$A/t Spod. Batt. eq						
									526.2 288.1 286.1 284.1						
									(d) + Royalty						
									\$A/t Spod. Batt. eq						
									437.0 409.8 396.4 383.5						
									Price Assumptions						
									Unit						
									Jun 17 Jun 18 Jun 19 Jun 20 Jun 21						
									AUDUSD						
									US\$/A\$						
									0.73 0.72 0.75 0.76 0.77						
									Spodumene - Chemical (ie Battery)						
									US\$/t						
									675 775 800 700 600						
									Tantalite						
									US\$/t						
									60 60 60 60 60						
									Hedging						
									Unit						
									Jun 17 Jun 18 Jun 19 Jun 20 Jun 21						
									none						
									Sensitivity Analysis						
									Valuation						
									FY21 NPAT						
									1.03						
									93.8						
									Base Case						
									1.27 (24.0%)						
									138.5 (47.7%)						
									Spot Prices						
									Spot USD/AUD 0.77, Chemical Spod \$750/t, Tant. \$60/lb.						
									AUDUSD +/-10%						
									0.88 / 1.20 (-13.8% / 16.9%)						
									76.8 / 114.5 (-18.1% / 22.1%)						
									Spodumene - Technical +/-10%						
									1.03 / 1.03 (0.0% / 0.0%)						
									93.8 / 93.8 (0.0% / 0.0%)						
									Spodumene - Chemical +/-10%						
									1.17 / 0.88 (14.3% / -14.3%)						
									111.3 / 76.2 (18.7% / -18.7%)						
									Tantalite +/-10%						
									1.03 / 1.02 (0.9% / -0.9%)						
									94.9 / 92.6 (1.2% / -1.2%)						
									Production +/-10%						
									1.17 / 0.88 (14.6% / -14.6%)						
									111.6 / 76.0 (19.0% / -19.0%)						
									Operating Costs +/-10%						
									0.97 / 1.08 (-5.7% / 5.7%)						
									86.5 / 101.1 (-7.8% / 7.8%)						
									Unpaid Capital						
									Year Expires						
									No. (m)						
									\$m						
									Avg price						
									% ord						
									30-Jun-17						
									23.0 5.8 0.25 2%						
									30-Jun-18						
									41.6 15.8 0.38 3%						
									30-Jun-19						
									44.5 20.7 0.47 4%						
									30-Jun-20						
									0.0 0.0 0.00 0%						
									30-Jun-21						
									0.0 0.0 0.00 0%						
									TOTAL						
									109.1 42.3 0.39 9%						
									Valuation						
									\$m \$/shr						
									100% Pilgangoora (pre-tax NAV at disc. rate of 12%)						
									1089 0.80						
									Other Assets/Exploration						
									611 0.45						
									Forwards						
									0 0.00						
									Corporate Overheads						
									-73 -0.05						
									Net Cash (Debt)						
									94 0.07						
									Tax (NPV future liability)						
									-344 -0.25						
									Options & Other Equity						
									26 0.02						
									Total						
									1403 1.03						
Analyst: Trent Barnett									10 Nov 16						
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"tbc capital" could be equity or debt. Our valuation is risk-adjusted for how this may be obtained.															
Sources: IRESS, Company Information, Hartleys Research															

Fig. 2: Key Assumptions and Risks for valuation

Assumption	Risk of not realising assumption	Downside risk to valuation if assumption is incorrect	Comment
~36 year mine life	Low	Meaningful upside	This appears reasonable based on current resources
2mtpa processing	Upside/downside	Moderate	We assume throughput in line with the DFS.
Capex slightly higher than DFS	Low	Upside / downside	We assume capex slightly higher than the DFS
Debt funding	Low	Upside / downside	We assume the project can have meaningful debt funding
Tantalite recoveries far lower than DFS	Low	Upside	We assume low recoveries in order to be conservative
Speculative value for expansion to 4Mtpa	Low	Upside	We do not model the expansion to 4mtpa explicitly, but do include some meaningful, albeit risked, value.
No value for downstream opportunities	Low	Upside	We assume no explicit value for potential downstream opportunities.
Exploration value	Moderate	Low	We assume modest exploration value.

Conclusion

Spodumene selling prices are the most significant risk, and adjacent to this is signing the offtakes for product. Commissioning and financing are also risks to our valuation.

Source: Hartleys

PRICE TARGET

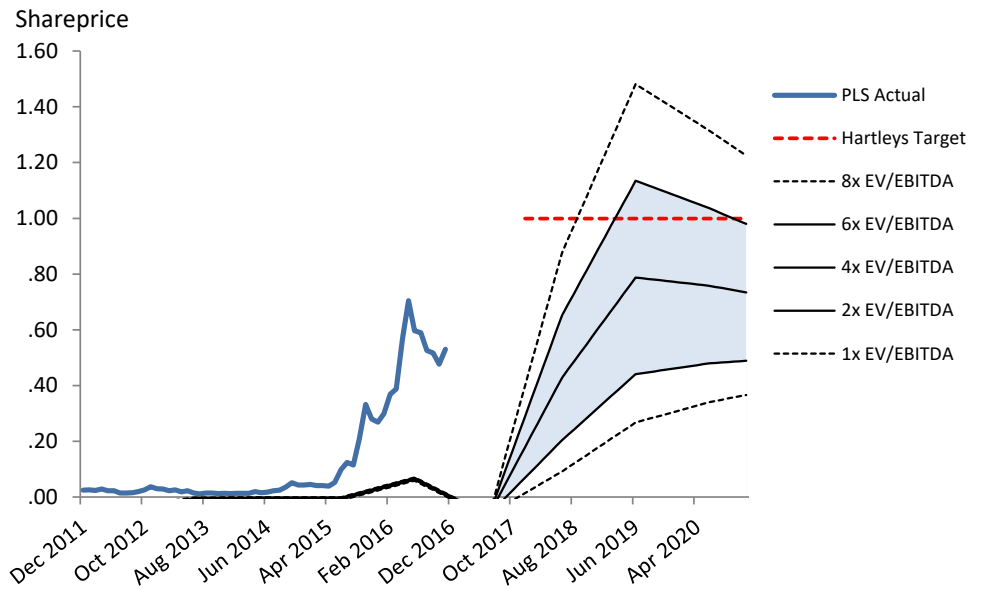
We have reduced our price target slightly to \$1.00 (from \$1.01).

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case	50%	\$1.03	\$1.13
NPV at spot commodity and fx prices	30%	\$1.27	\$1.40
Net cash	20%	\$0.07	\$0.07
Risk weighted composite		\$0.91	
12 Months Price Target		\$1.00	
Shareprice - Last		\$0.535	
12 mth total return (% to 12mth target + dividend)		87%	

Source: Hartleys Estimate

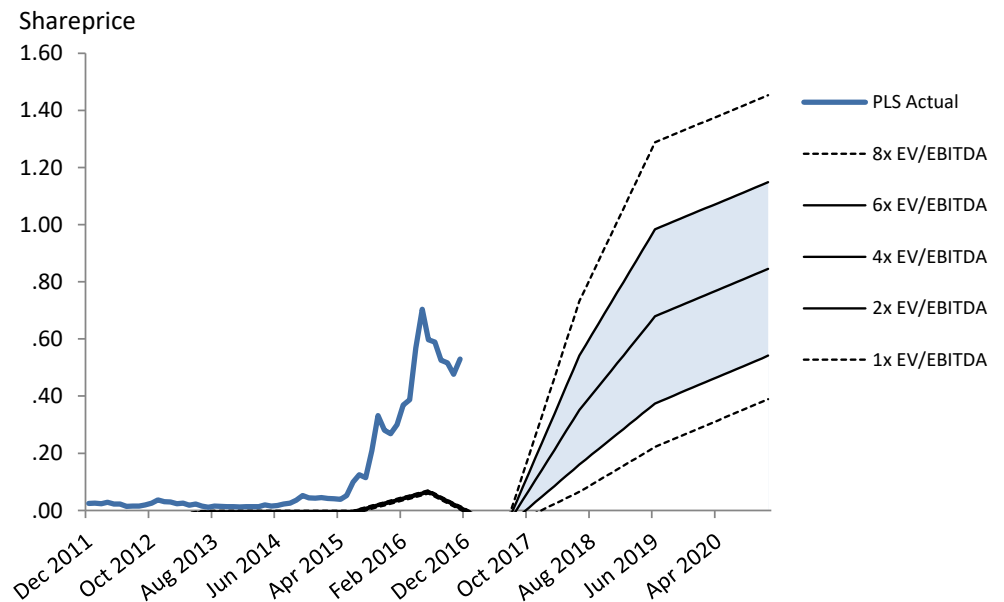
EV/EBITDA BANDS

Fig. 3: Using *Hartleys base case commodity forecasts*



Source: Hartleys Estimates, IRESS

Fig. 4: Using *spot commodity prices*



Source: Hartleys Estimates

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Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

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Hartleys has assisted in the completion of part of a capital raising in the past 12 months for Pilbara Mines Limited.

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