

METALS X LIMITED (MLX)

Nifty can give more copper for longer

Copper mineralisation at Nifty extends well beyond the areas worked and outlined before MLX acquired the project in August 2016. The Company is drilling 80-100m/day from underground with the plan of extending reserves in May 2017 and again in the 2nd half of the calendar year.

The quantified Nifty orebody (reserves, past sulphide production and quarantined material) of 24Mt at 2.2% Cu (530kt contained Cu) is contained within a 600m by 200m mining area. There are no interpreted geological boundaries interrupting the deposit down plunge. In 2016 MLX began underground drilling up and down plunge to extend reserves into these areas for the first time in a decade. A seismic survey commencing in early April 2017 will help define deeper, down plunge targets to be drilled from surface in the 2nd half.

Given the deposit geometry we believe MLX could double its Nifty reserves in FY17 and extend them to +20Mt in FY18, at 1.8-2.0% Cu. At a 2.5Mtpa throughput rate, 20Mt is 8 years mine life.

When and at what cost?

The Nifty concentrator has 2.5-3.0 Mtpa throughput capacity, but is currently being run at 1.6Mtpa. MLX is spending about \$1M/quarter on drilling and \$1M/month on development, above production needs, to return the mine and plant to full capacity. Hartleys assumes an increase in ore extraction and processing rates to 2.0Mtpa from July 2017 and 2.5Mtpa from July 2018.

Neglected exploration to get attention

Nifty lies within a 200km long string of copper anomalies and parallel to a trend of zinc-lead anomalism. MLX is putting a regional exploration program together, starting with extension and collation of 3D IP data generated by previous operator. MLX intends spending up to \$7M this year and \$10-15M on exploration in FY2018. Targets include 2-5km scale prospects Maroochydore, Finch and Warrabarty Zn/Pb.

Tin production to rise

MLX is installing X-ray ore sorting at Renison in the December half 2017. Subsequent output of tin in concentrate should increase by about 20%. Hartleys' forecasts have been adjusted accordingly.

Short term repair; return ramp begins 2nd half

MLX is revealing a different Nifty to the apparently distressed and limited operation it acquired in 2016. Although repair of reserves and development will continue through CY2017 indications of the mine's potential should continue to emerge, starting with drilling results and revision of reserves in the Jun.H 2017.

MLX - not yet priced for the growth we see

Hartleys base case valuation has increased to \$1.24 per MLX share as a result of changes to the Nifty inventory and production profile (post June 2017), together with a step change in forecast tin output from Jan' 2018. Copper and tin prices remain supportive. Maintain Buy.

12 Apr 2017

Share Price	\$0.745
Valuation	\$1.24
Price Target (12 month)	\$1.33

Brief Business Description:

Australian base metals producer and developer, with a noteworthy record in underground mine rejuvenation and operation.

Hartleys Brief Investment Conclusion

Increasing copper inventory and production from Nifty, with exploration upside, to drive MLX forward in 2017.

Chairman & MD

Peter Newton (Chairman)
Warren Hallam (Executive Director and CEO)

Top Shareholders

BlackRock Group	9.4%
Apac Resources Limited	9.2%
Jinchuan Group Limited	7.3%
Ausbil Investment Management Limited	5.1%

Company Address

Level 3 18-32 Parliament Place
West Perth, WA 6005

Issued Capital

- fully diluted	609m
	609m

Market Cap

- fully diluted	A\$454m
	A\$454m

Cash (30 June 17e)

	A\$92m
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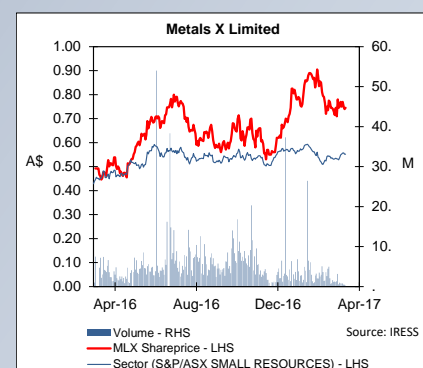
Debt (30 June 17e)

	A\$0m
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EV A\$362m

	Prelim. (A\$m)	FY17e	FY18e	FY19e
Prod (kt Cu)	28.9	33.7	42.1	
Prod (t Sn)	3590	3902	4193	
Op Cash Flw (A\$m)	64	122	173	
Norm NPAT (A\$m)	45	94	120	
CF/Share (cps)	10.5	20.1	28.3	
EPS (cps)	7.3	15.4	19.8	
P/E	10.2	4.8	3.8	

	Cu	Sn
Resources (kt)	581	94
Reserves (kt)	312	43



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SUMMARY MODEL

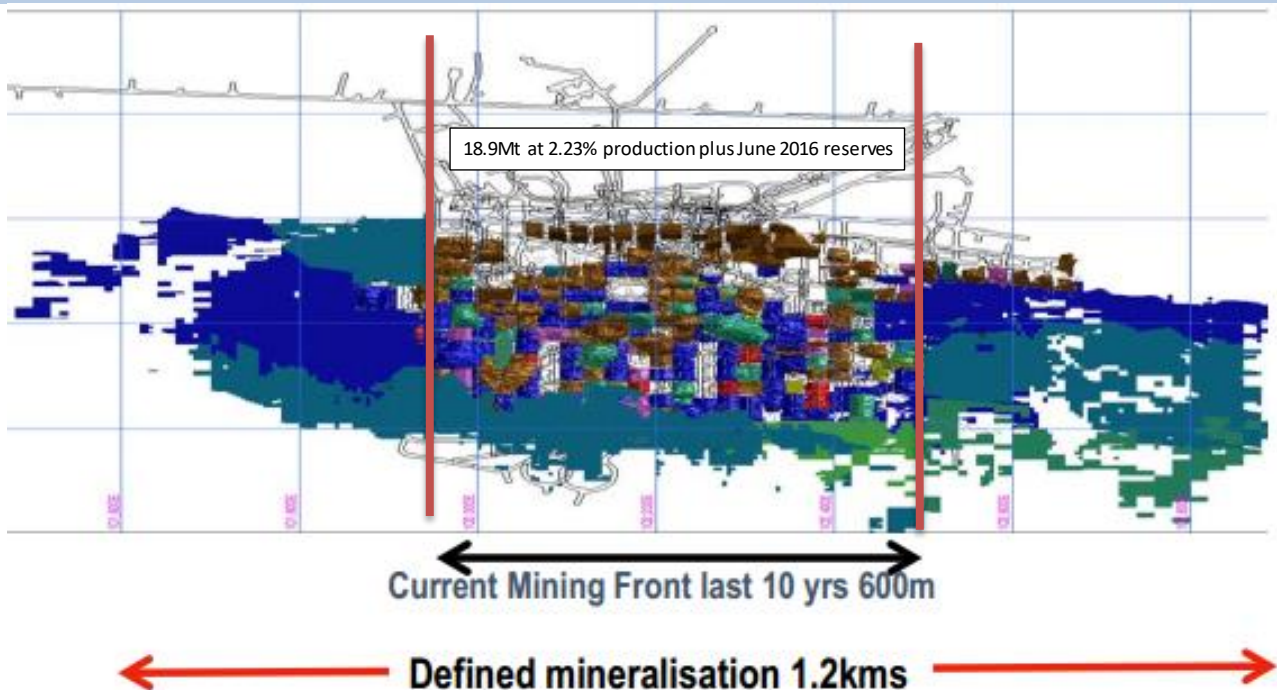
Metals X MLX												Recommendation Buy								
Market Information												Company Information								
Share price	\$0.75											Peter Newton (Chairman)		Level 3 18-32 Parliament Place						
Market Capitalisation	\$454m											Warren Hallam (Executive Director and CEO)		West Perth, WA 6005						
Net cash (debt)	\$130m											Simon Heggen (Non-Exec Director)		+61 8 9220 5700						
Issued Capital (fully diluted)	609m											Yimin Zhang (Non-Exec Director)		+61 8 9220 5757						
EV	\$324m											Stephen Robinson (Non-Exec Director)		www.metalsx.com.au						
Valuation	\$1.24																			
12 month price target	\$1.33																			
Profit & Loss												Top Shareholders								
	Unit	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24	m shares		%								
Net Revenue	ASM	313	383	460	443	436	433	431	431	BlackRock Group		57		9						
Forward sales	ASM	67	67	67	67	67	67	67	67	Apac Resources Limited		56		9						
Total Costs	ASM	-249	-261	-287	-288	-290	-290	-292	-294	Jinchuan Group Limited		44		7						
EBITDA	ASM	64	122	173	155	146	143	140	138	Ausbil Investment Management Limited		31		5						
- margin	ASM	20%	32%	38%	35%	33%	33%	32%	32%	Production Summary										
Depreciation/Amort	ASM	-20	-28	-35	-34	-37	-42	-45	-51	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24	
EBIT	ASM	44	94	138	120	109	101	94	87	Mined grade	%Cu	2.10	1.91	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Net Interest	ASM	1								Combined Recovery & Payability		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Pre-Tax Profit	ASM	45	94	138	120	109	101	94	87	Copper prodn	(kt)	31	29	34	42	42	42	42	42	42
Tax Expense	ASM	6	6	6	6	6	6	6	6	Mine Life	yr	13.4	12.0	8.9	6.1	5.1	4.1	3.1	2.1	1.1
NPAT	ASM	45	94	120	105	95	76	71	65	Renison throughput (whole project)	Mt	0.69	0.75	0.79	0.86	0.86	0.86	0.86	0.86	0.86
Abnormal Items	ASM									Mined grade	%Sn	1.29	1.33	1.39	1.39	1.39	1.39	1.39	1.39	
Reported Profit	ASM	45	94	120	105	95	76	71	65	Combined Recovery & Payability		0.71	0.72	0.71	0.70	0.70	0.70	0.70	0.70	
	ASM	45	94	120	105	95	76	71	65	Tin prodn (MLX share)	(kt)	3,177	3,590	3,902	4,193	4,193	4,193	4,193	4,193	
	ASM	45	94	120	105	95	76	71	65	Mine Life	yr	13.2	11.2	9.6	7.8	6.8	5.8	4.8	3.8	2.8
Balance Sheet												Costs								
	Unit	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24	
Cash	ASM	92	130	215	274	330	401	469	543	Nifty		117	109	97	89	89	89	89	89	
Other Current Assets	ASM	67	67	67	67	67	67	67	67	Cost/milled tonne	AS\$/t	117	109	97	89	89	89	89	89	
Total Current Assets	ASM	159	197	281	341	396	468	535	610	EBITDA/ tonne milled ore	AS\$/t	5	16	39	45	38	37	37	37	
Property, Plant & Equip.	ASM	170	190	192	190	186	166	134	95	Cash costs incl. royalty	AS\$/lb Cu	2.89	2.99	2.78	2.58	2.57	2.56	2.54	2.53	
Investments/Other	ASM	10	10	10	10	10	10	10	10	+ depm & amortn	AS\$/lb Cu	3.33	3.07	2.89	2.71	2.72	2.75	2.75	2.79	
Total Non-Curr. Assets	ASM	180	200	202	200	196	176	144	105		US\$/lb	2.45	2.27	2.16	2.06	2.07	2.12	2.14	2.21	
Total Assets	ASM	339	397	483	541	592	644	679	715	Renison	AS\$/t	136	121	122	129	129	129	129	129	
Short Term Borrowings	ASM	2	2	2	2	2	2	2	2	EBITDA/ tonne milled ore	AS\$/t	9	25	25	27	26	24	23	22	
Other	ASM	32	32	32	32	32	32	32	32	Cash costs incl. royalty	AS\$/t Sn	18.1	16.2	15.1	14.7	15.1	15.2	15.4	15.6	
Total Curr. Liabilities	ASM	33	33	33	33	33	33	33	33		US\$/kt	13.3	12.0	11.3	11.2	11.5	11.7	12.0		
Long Term Borrowings	ASM	6	6	6	6	6	6	6	6	+ depm & amortn	US\$/kt	21.1	20.4	20.3	20.0	20.0	19.8	20.5		
Other	ASM	40	40	40	40	40	40	40	40		US\$/kt	15.6	15.1	15.2	15.2	15.2	15.3	16.0		
Total Non-Curr. Liabil.	ASM	46	46	46	46	46	46	46	46	Price Assumptions	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24
Total Liabilities	ASM	79	79	79	79	79	79	79	79	AUDUSD		0.735	0.739	0.750	0.760	0.763	0.772	0.778		
Net Assets	ASM	259	317	404	462	513	565	600	636	Copper	US\$/lb	2.21	2.51	2.87	2.88	2.75	2.75	2.75		
	ASM	259	317	404	462	513	565	600	636	Tin	US\$/lb	3.01	3.40	3.83	3.78	3.60	3.56	3.54		
	ASM	259	317	404	462	513	565	600	636		US\$/kt	16.0	19.6	18.8	19.5	19.5	19.1	19.1		
	ASM	259	317	404	462	513	565	600	636	Sensitivity Analysis	AS\$/t	21.8	26.5	25.1	25.5	25.5	24.8	24.6		
Cashflow												Base Case								
	Unit	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24	Valuation	1.24		FY18 NPAT		93.9					
Operating Cashflow	ASM	64	122	173	155	146	143	140	138	Sens	-10%	+10%	Sens	-10%	+10%					
Income Tax Paid	ASM				-18	-15	-14	-25	-23	US Cu price +/-10%	24%	0.94	1.54	19%	76.1	111.8				
Interest & Other	ASM	1								US Sn price +/-10%	11%	1.10	1.38	9%	85.5	102.4				
Operating Activities	ASM	65	122	173	137	131	129	114	114	AUDUSD +/-10%	34%	0.82	1.66	28%	67.6	120.2				
Property, Plant & Equip.	ASM	-23	-38	-27	-23	-23	-23	-13	-13	Production +/-10%	4%	1.19	1.29	13%	81.7	106.1				
Exploration	ASM									Operating Costs +/-10%	22%	0.97	1.51	31%	64.8	123.1				
Asset sales	ASM									Unpaid Capital										
Investments	ASM									Exp/yr	No. (M)	3	3	SM	Avg ex.	% ord				
Investment Activities	ASM	-23	-38	-27	-23	-23	-23	-13	-13	30-Jun-18	3		3		0.6%					
Borrowings	ASM									Total	3		3		0.6%					
Equity dividend	ASM	-12	-24	-30	-24	-24	-18	-18	-12	Reserves & Resources June '16	Mt	34.5	1.7	581	Cu					
Financing Activities	ASM	-12	-24	-30	-24	-24	-18	-18	-12	Measured	18.8	2.1	387							
Net Cash Change	ASM	29	60	116	90	84	89	84	90	Indicated	7.4	1.2	91							
	ASM	29	60	116	90	84	89	84	90	Inferred	5.0	1.2	60							
	ASM	29	60	116	90	84	89	84	90	INCLIDES TOTAL RESERVE	5.2	1.9	312							
	ASM	29	60	116	90	84	89	84	90	MAROOCCHYDRE Cu	48.6	1.0	485							
	ASM	29	60	116	90	84	89	84	90	Indicated	40.8	0.9	375							
	ASM	29	60	116	90	84	89	84	90	Inferred	7.8	1.4	110							
	ASM	29	60	116	90	84	89	84	90	RENISON Sn (MLX share)	6.5	1.5	94	Sn						
	ASM	29	60	116	90	84	89	84	90	INCLUDES TOTAL RESERVE	3.4	1.29	43							
	ASM	29	60	116	90	84	89	84	90	RENTALS Sn reserve (MLX share)	10.5	0.45	47							
	ASM	29	60	116	90	84	89	84	90	Hartleys model June '17	Mt	19.9	1.8	365	Cu					
	ASM	29	60	116	90	84	89	84	90	TOTAL NIFTY INVENTORY	19.9	1.8	365	Cu						
	ASM	29	60	116	90	84	89	84	90	TOTAL RENISON INVENTORY MLX sha	4.2	1.4	58	Sn						
	ASM	29	60	116	90	84	89	84	90											
Ratio Analysis												Share Price Valuation (NAV)								
	Unit	Jun 17	Jun 18	Jun 19	Jun 20	Jun 21	Jun 22	Jun 23	Jun 24											
GCFFS	Ax	10.5	20.1	28.3	25.4	23.9	23.5	22.9	22.6	100% Nifty after tax 7% DR	327	0.54								
CFR	X	7.1	3.7	2.6	2.9	3.1	3.2	3.2	3.3	100% Maroochydore	65	0.11								
EPCF	Ax	7.3	15.4	19.8	17.3	15.6	12.5	11.6	10.7	50% Renison after tax 7% DR	162	0.27								
PER	X	10.2	4.8	3.8	4.3	4.8	6.0	6.4	6.9	Remails 50%	32	0.05								
DPS	%	2.0	4.0	5.0	4.0	4.0	3.0	3.0	2.0	Wingellina 100%	33	0.05								
Yield	%	2.7	5.4	6.7	5.4	4.0	4.0	4.0	2.7	Exploration	49	0.08								
Interest Cover	x	na	-	-	-	-	-	-	-	Corporate overheads	-49	-0.08								
ROCE	%	24%	47%	68%	60%	56%	57%	66%	83%	Net cash (debt)	92	0.15								
ROE	%	17%	30%	34%	26%	21%	18%	16%	14%	Tax benefit	45	0.07								
Gearing	%	2.3%	1.9%	1.5%	1.3%	1.2%	1.1%	1.0%	0.9%	Hedging										
*All values fully diluted unless otherwise stated												Option value								
Debt/Equity		2.3%	1.9%	1.5%	1.3%	1.2%	1.1%	1.0%	0.9%	Total	756	1.24								

NIFTY RESERVE DEFINITION

The long game at Nifty

The extant reserve estimate made under previous management (5Mt at 1.85% Cu as at March 2016) dictates perceptions of Nifty as a short life mine with unstable ground conditions. However Nifty copper mineralisation extends well beyond the areas worked and outlined before MLX brought the project under its wing in August 2016. MLX is drilling 80-100m/day from underground with the plan of extending reserves by May 2017, and extending them again in the 2nd half of the calendar year. The best indication of the potential scale of the upgrades is apparent from Figure 1.

Fig. 1: Nifty underground plan view. 2017.



Sources:MLX 2017, Hartleys.

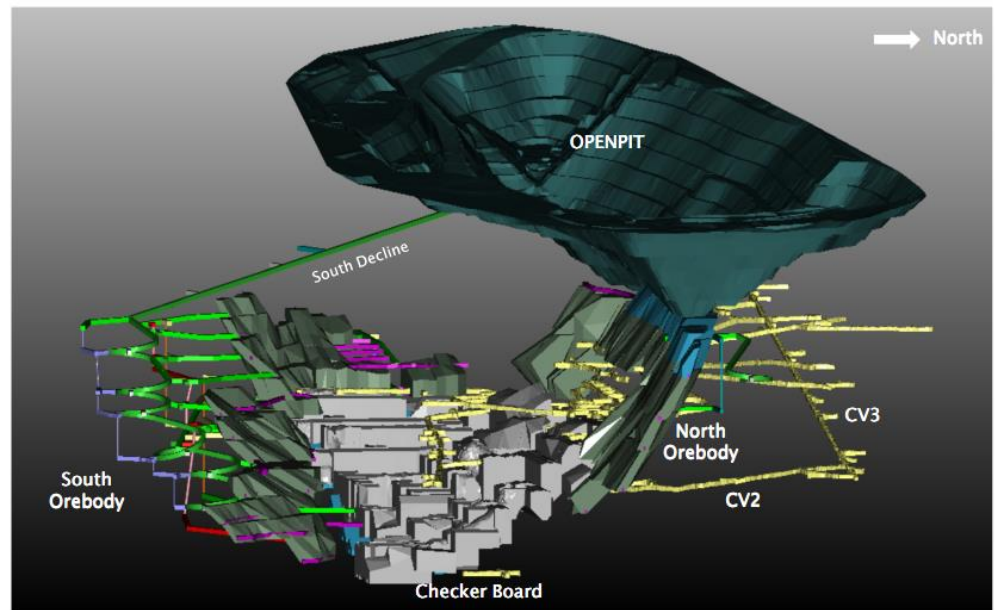
Nifty's total defined inventory (reserves + mined) of 24Mt at 2.2% Cu lies within the areas selected in a 2006 feasibility study. MLX is seeking to extend the reserves into new areas for the first time since 2006.

The Nifty deposit is in a syncline (narrow bowl shape) with the axis plunging shallowly (15deg) to right of page on the plan (east). March 2016 reserves and past sulphide production of 19Mt at 2.2% Cu has come almost entirely from the 600m by 200m area shown as stoping blocks (Figure 1). A further 5Mt of reserves were quarantined in 2014, so ore in the old plan totals about 24Mt. There are no interpreted geological boundaries interrupting the deposit down plunge. In 2016 MLX began drilling up and down plunge to extend reserves into these areas for the first time in over a decade. Up plunge the deposit daylight in the open pit (Figure 2) and down plunge the deposit is open, beyond depths of about 400 mbs. A seismic survey to be completed in early April 2017 will assist with deeper down plunge drilling from surface in the 2nd half.

Nifty Reserves were pared to 5.2Mt at 1.85% Cu under previous ownership as at March 2016. Given the deposit geometry MLX could outline +10Mt as a reserve in FY17 and +20Mt in FY18, at 1.8-2.0% Cu. At a 2.5Mtpa throughput rate, 20Mt is 8 years mine life.

Fig. 2: Nifty schematic isometric view looking west.

MLX plans to spend \$10-15M in FY2018 on exploration at Nifty.

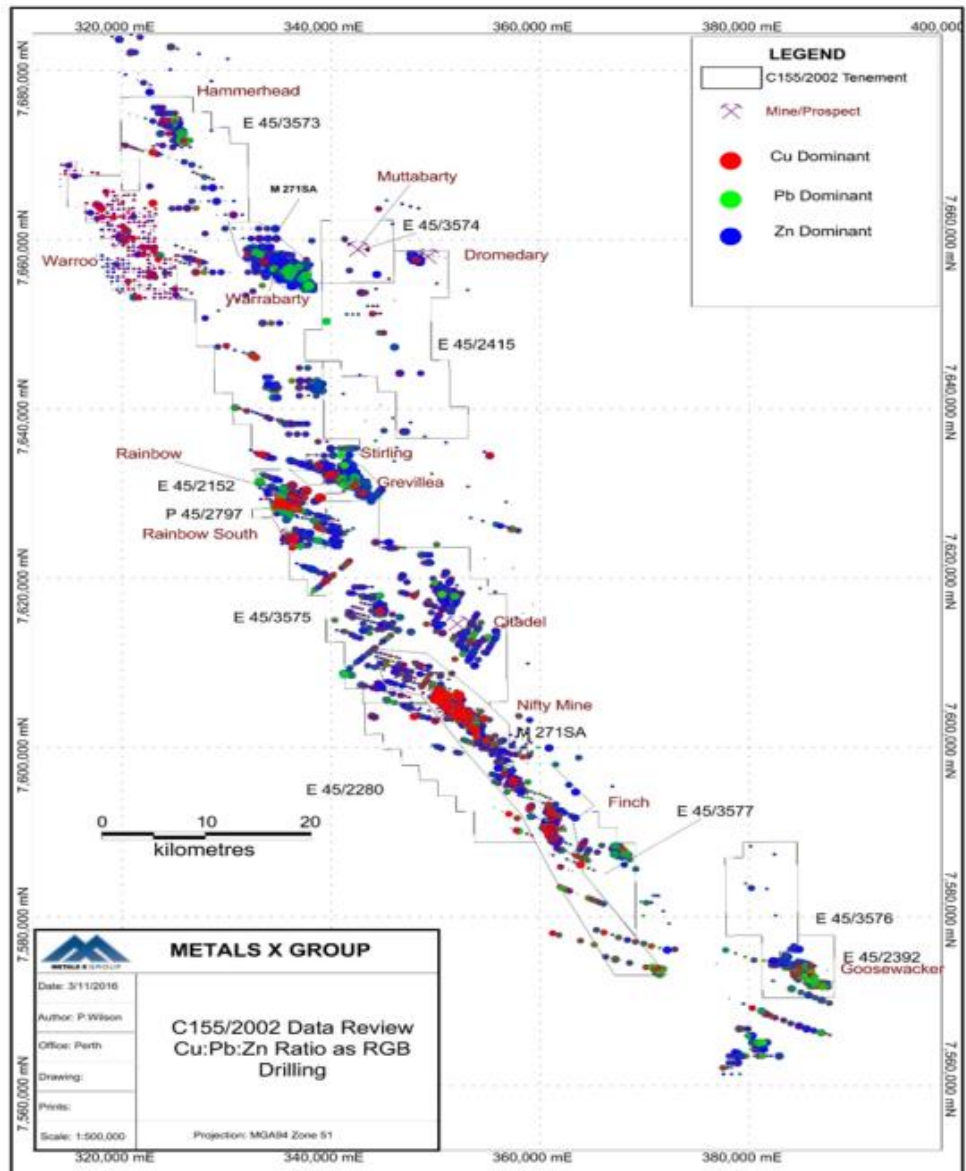


Source: ABY, 2013.

REGIONAL EXPLORATION

MLX has also had a chance to review the regional exploration database at Nifty, most of it generated by WMC more than 20 years ago. Nifty lies within a 200km long string of copper anomalies and parallel to a trend of zinc-lead anomalism. MLX is putting a regional exploration program together, starting with collation and extension of 3D IP data generated by previous operator. Maroochydore (Cu, 80km from Nifty) is the most advanced of the regional prospects under review. Finch (Cu, 12km from Nifty) and Warrabarty (Zn/Pb, 60km from Nifty) are additional 2-5km scale anomalies defined by shallow, wide spaced drilling (Figure 3). The project exploration budget of up to \$7M this year will include an allocation for regional drilling. MLX intends spending \$10-15M on exploration in FY2018.

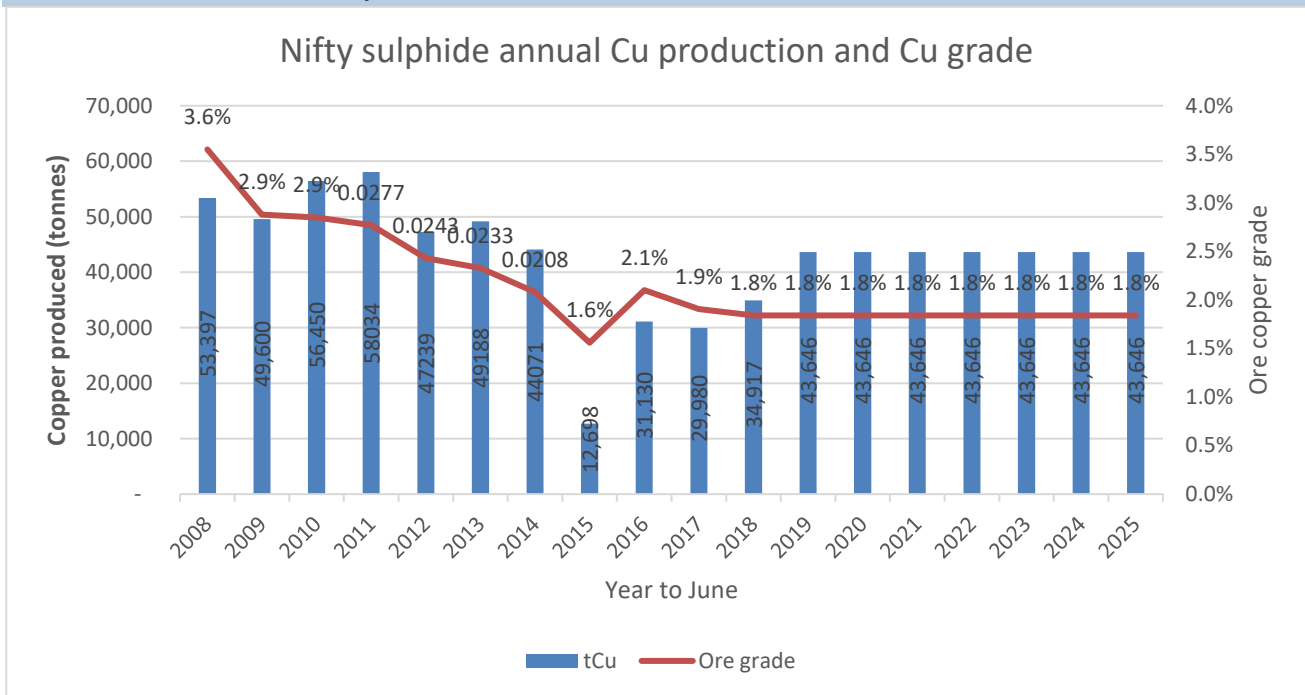
Fig. 3: Nifty regional tenure and Cu/Pb/Zn ratios from historic drilling.



Source: MLX 2017.

NIFTY PRODUCTION

Fig. 4: Nifty head grade and copper output since commissioning, 2007. Years to 2016 actual and Hartleys' forecast from 2017.



Sources: ABY reports, MLX reports, Hartleys.

Nifty is running at 55-60% of installed capacity.

The Nifty concentrator has rated capacity of 2.5 Mtpa ore throughput, but is currently being run two weeks on and one week off. The underground mine crusher and conveyor ore haulage capacity is 3.0 Mtpa. Production is currently about 70% from the older area and 30% from new areas; a proportion the company wants to reverse by late CY2017. To do so drilling must be built up ahead of development. MLX is spending about \$1M/quarter on drilling and \$1M/month on development above production needs. Hartleys assumes an increase in ore extraction and processing rates to 2.0Mtpa from July 2017 and to 2.5Mtpa from July 2018.

RENISON TIN

MLX has committed to X-ray ore sorting at Renison. The facility will be integrated with a new crusher, at a cost of \$13M (100% basis) in the December 2017 half. Subsequent output of tin in concentrate should increase by 20%. Additional development to increase mine production will be reflected from the June 2017 quarter. Hartleys' forecasts have been adjusted accordingly.

Rentails is an uncommitted expansion opportunity for MLX, with flow on effects on operational flexibility and regional growth prospects. Funding discussions with the JV partner and third parties is ongoing.

Tin prices have recovered after China passively removed export tariffs on the metal in January. An initial surge of Chinese stocks onto other markets appears to have been short lived and the base narrative of supply constraint is intact.

Fig. 5: LME tin price (US\$/t), 2015-2017.



Source: IRESS.

Hartleys' 12 month price target is \$1.33 per share.

VALUATION AND PRICE TARGET

Key model assumptions;

1. Nifty 19.9 Mt inventory at 1.8% Cu, mined at 2.5 Mtpa from July 2018. 92% met/payable recovery.
The inventory is 3.5 times the March 2016 reserve, in terms of contained copper. Capital costs of definition and development are included in the model. The mine life is assumed to extend to 2025.
2. Nifty site cost of \$A89/t of milled ore, US\$82/t concs transport, US\$95, 0.09 TCRC, 97% payability → US2.98/lb C3 (C1+royalty+deprn, AUDUSD 0.78).
3. Cu price as per summary table. (US\$2.75/lb).
4. Renison 8.4Mt inventory at 1.4% Sn, mined at 860ktpa, 71% met recovery. The modelled inventory contains 70% more contained tin than the June 2016 reserves. Ore definition at Renison progresses with mining. Capital costs of definition and development are included in the model. The mine life is assumed to extend to 2027.
5. Site cost of A\$129/t milled ore, US\$110 concs transport, 92% net pay. US\$1.5Mpa Cu revenue → US\$15,000/t C3 (C1+royalty+deprn, AUDUSD 0.78).
6. Sn price as per summary table; US\$19,100/t.
7. AUDUSD 0.78.
8. A corporate overheads liability is included in the valuation to reflect the cost of management over the operational life of the company. Corporate overhead costs are estimated at A\$5Mpa.

Hartleys' estimated NAV for MLX is 124cps, using price forecasts similar to consensus as set out in the summary model page. A real, after tax discount rate of 7% is used.

At real spot price assumptions the MLX NAV estimate decreases to 118cps, with MLX's share of Renison increasing (to 31cps) and lower copper prices leading to a lower valuation for Nifty (45cps). Undeveloped projects Maroochydore, Wingellina and

Rentals are valued informally or in relative terms, and as if they were in separate unfunded entities. The value attributed to exploration (8cps) is intended to account for all prospects outside of modelled inventory or nominated exploration projects. Both Nifty and Renison have substantial associated exploration tenure and prospects.

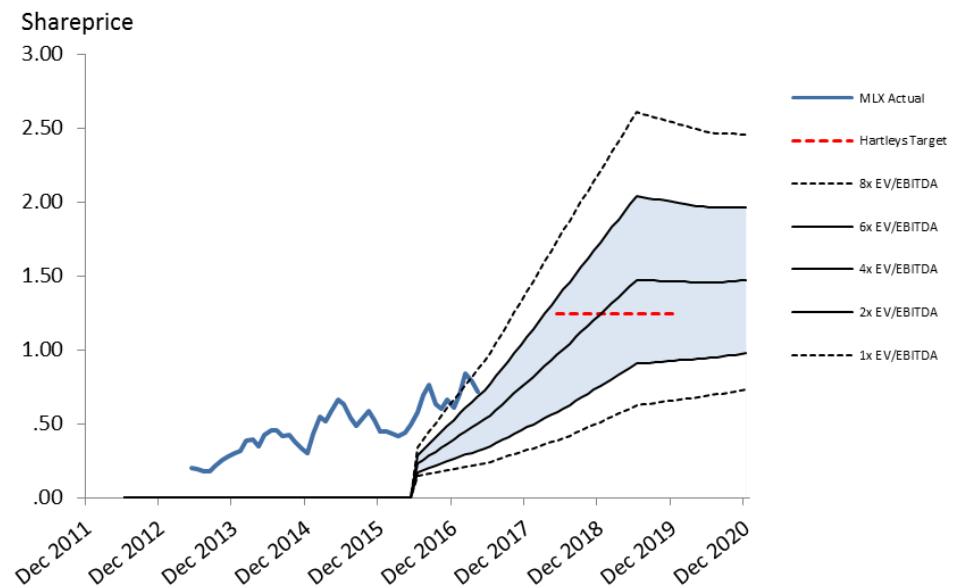
At the end of December 2016 MLX had cash and working capital of \$112M, of which \$84M, or about a quarter of annual revenue, was unsold concentrate at various stages of sale. Unsold inventory is valued by MLX at spot prices at the end of accounting periods. At the end of December 2016 the tin price (A\$29,290) was higher than present spot (A\$26,700) but the copper price was lower; A\$3.44 vs today A\$3.47/lb. Hedging and timing aside, a similar volume of unsold concentrate might be revalued at 12 April 2017 at about \$3M less (copper is the larger revenue stream).

MLX's owns 6.7% of Brainchip (BRN.ASX), which has a market value of A\$9M at 25cps.

The 12 month price target for MLX is 7% more than the estimated NAV, or 133 cps.

MLX completed a demerger in December 2016, splitting its gold assets into Westgold Resources (WGX.ASX).

EV/EBITDA BANDS



Source: Hartleys.

RISKS

Key assumptions and risks for valuation

Assumption	Risk of not realising assumption	Risk to valuation if assumption is incorrect	Comment
Copper price	Medium	High	A higher copper price is assumed because current settings are unlikely to encourage sufficient supply to meet future demand.
Tin price	Low	High	A marginal tin supply response is expected, bringing the tin price down to ~\$19,500/t.
Nifty reserve extension	Medium	High	Nifty is open down plunge and exploration drilling access has been limited.
Nifty costs	Medium	High	MLX has not yet demonstrated lower unit costs at Nifty, which are assumed to be broadly in line with other large underground mines.
Renison reserve extension	Low	Medium	Renison reserves progress with mine development around the margins of the resource.
<i>Conclusion</i>	<i>Risks are predominantly commodity price and geological, and each has a counter balancing opportunity. Both Nifty and Renison are considered middle to lower cost curve producers in their respective markets, with long term mine life potential.</i>		

Source: Hartleys Research

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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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