Copper and tin: Producer

METALS X LIMITED (MLX)

MLX.asx
Buy

Nifty to drive things from here.

Recently restructured MLX now has a strong copper flavour. Nifty's +30,000tpa copper output generates about 2.5 times the Company's share of tin revenue from Renison, and while tin cash flows overshadow those from copper for now, the weight of MLX's future growth opportunities are skewed towards copper.

While Nifty is generating positive cash flow, mine production remains below historical levels after a ground failure event in 2014 under previous management. Since assuming control of the project in August 2016, MLX has continued to rebuild mine output, reserves and both near mine and regional exploration programs – while simultaneously imposing its own operating ethos and practices. MLX believes the full picture at Nifty will take another 12-18 months to materialise.

Four growth opportunities at Nifty are;

1. The Nifty concentrator remains 40% underutilised. Once mine development is sufficiently advanced the addition of another shift could increase output by 30% at negligible capital cost.
2. MLX is examining the viability of reinstating part of 5Mt of high grade, developed reserves that were culled after the 2014 ground failure.
3. Nifty is open down plunge. Exploration at Nifty ceased in 2014.
4. MLX has a partly drilled copper resource of 485kt Cu at Maroochydore, 80km southeast of the Nifty plant.

Current C1 (incl. royalty) costs at Nifty are about US$2.05/lb (33ktpa Cu). Hartleys' model assumes costs and output held at these levels. There is clear medium term potential for 35-40ktpa and US$1.75/lb. Progress on the 4 points above would see forecasts quickly shift to the higher output level.

Renison tin cash margins are more than A$10,000/t.

The A$ tin price is A$29,000/t (5 Jan 2017), up 50% from its 2015 low point. Renison generates pre-tax cash flow of about A$4M/month (MLX share) at this tin price level. Firm economic growth, cost pressures at the major tin mining centres and a depletion of Myanmar's recent tin discoveries have fed the rise. Tin has traded above Hartleys long term forecast of US$19,500/t (A$25,500/t) since September 2016.

Renison also has operational growth opportunities;

1. XRF ore sorting may be implemented by end of 2017. Processing capacity would increase by 25% after MLX capex of <A$8M.
2. Rentails (5ktpa Sn, 2ktpa Cu, ready to develop) is a compelling investment at tin prices above US$18,000/t (currently US$21,000/t).

Renison is modelled here without ore sorting or Rentails, as both projects are uncommitted.

MLX is debt free and has $50M cash (pro forma).

Copper and tin play with some pieces to fall in place in 2017.

Hartleys values MLX at 88 cps, with additional room for operational growth from both Nifty and Renison in 2017 and 2018. MLX has unrewarded tin exposure and potential margin expansion on a broad copper base. The main risks are prices and non-delivery of mine extensions.

	6 Jan 2017
Share Price	$0.610
Valuation	$0.88
Price Target (12 month)	$0.94

Brief Business Description:
Copper and tin producer

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

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

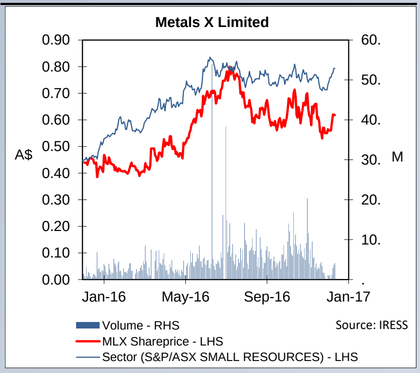
Top Shareholders	
Apac Resources Limited	12.8%
BlackRock Group	9.4%
Jinchuan Group Limited	7.3%
Ausbil Investment Management Limited	5.3%

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

Issued Capital	609m
- fully diluted	609m
Market Cap	A$372m
- fully diluted	A$372m
Cash (31 Dec 16e)	A$50m
Debt (31 Dec 16e)	A$0m
EV	A$322m

Prelim. (A$m)	FY16a	FY17e	FY18e
Prod (kt Cu)	30.8	32.6	32.6
Prod (t Sn)	3177	3511	3539
Op Cash Flw (A$M)	17	83	118
Norm NPAT (A$M)		57	89
CF/Share (cps)	2.8	13.6	19.4
EPS (cps)		9.4	14.6
P/E		6.5	4.2

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



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SUMMARY MODEL

Metals X
MLX

Market Information	
Share price	$0.61
Market Capitalisation	$372m
Net cash (debt)	$50m
Issued Capital (fully diluted)	609m
EV	$322m
Valuation	0.88
12 month price target	$0.94

Profit & Loss	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Net Revenue	**A$M**	**274**	**334**	**365**	**363**	**350**
Forward sales	A$M					
Total Costs	**A$M**	**-258**	**-251**	**-246**	**-247**	**-247**
EBITDA	A$M	17	83	118	116	103
- margin		6%	25%	32%	32%	30%
Depreciation/Amort	A$M	-40	-26	-30	-31	-29
EBIT	**A$M**	**-23**	**56**	**89**	**85**	**75**
Net Interest	A$M	0	1			
Pre-Tax Profit	**A$M**	**-23**	**57**	**89**	**85**	**75**
Tax Expense	A$M				-11	-10
NPAT	**A$M**	**-23**	**57**	**89**	**74**	**65**
Abnormal Items	A$M					
Reported Profit	**A$M**	**-23**	**57**	**89**	**74**	**65**

Balance Sheet	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Cash	**A$M**	**50**	**77**	**125**	**177**	**221**
Other Current Assets	A$M	67	67	67	67	67
Total Current Assets	**A$M**	**117**	**144**	**191**	**244**	**287**
Property, Plant & Equip.	A$M	152	159	164	167	158
Investments/other	A$M	10	10	10	10	10
Tot Non-Curr. Assets	**A$M**	**162**	**169**	**174**	**177**	**168**
Total Assets	**A$M**	**278**	**312**	**365**	**421**	**456**
Short Term Borrowings	A$M	2	2	2	2	2
Other	A$M	32	32	32	32	32
Total Curr. Liabilities	**A$M**	**33**	**33**	**33**	**33**	**33**
Long Term Borrowings	A$M	6	6	6	6	6
Other	A$M	40	40	40	40	40
Total Non-Curr. Liabil.	**A$M**	**46**	**46**	**46**	**46**	**46**
Total Liabilities	**A$M**	**79**	**79**	**79**	**79**	**79**
Net Assets	**A$M**	**199**	**233**	**285**	**341**	**376**

Cashflow	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Operating Cashflow	A$M	17	83	118	116	103
Income Tax Paid	A$M					-11
	A$M					
Interest & Other	A$M	0	1			
Operating Activities	**A$M**	17	84	118	116	92
Property, Plant & Equip.	A$M	-26	-23	-24	-24	-20
Exploration	A$M					
Asset sales	A$M					
Investments	A$M					
Investment Activities	**A$M**	-26	-23	-24	-24	-20
Borrowings	A$M					
Equity/dividend	A$M		-12	-24	-18	-18
Financing Activities	**A$M**		-12	-24	-18	-18
Net Cash Change	**A$M**	**-10**	**48**	**70**	**73**	**54**

Shares	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Ordinary Shares - End	M	609	609	609	609	609
Ordinary Shares - Weighted	M		609	609	609	609
Diluted Shares - Weighted	M	609	609	609	609	609

Ratio Analysis	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
GCFPS	A¢	2.8	13.6	19.4	19.0	17.0
CFR	X	22.0	4.5	3.1	3.2	3.6
EPS	A¢	-3.7	9.4	14.6	12.1	10.7
PER	X		6.5	4.2	5.0	5.7
DPS	%	-	2.0	4.0	3.0	3.0
Yield	%		3.3	6.6	4.9	4.9
Interest Cover	x	1131.5	na	-	-	-
ROCE	%	-14%	33%	51%	48%	44%
ROE	%	-11%	25%	31%	25%	20%
Gearing	**%**	3.0%	2.6%	2.1%	1.8%	1.6%
*All values fully diluted unless otherwise stated						
Debt/Equity		3.0%	2.6%	2.1%	1.8%	1.6%

Share Price Valuation (NAV)	Risked Est. A$m	Est. A$/share
100% Nifty after tax 7% DR	200	0.33
100% Maroochydore	40	0.07
50% Renison after tax 7% DR	160	0.26
Rentails 50%	32	0.05
Wingellina 100%	20	0.03
Exploration	36	0.06
Corporate overheads	-49	-0.08
Net cash (debt)	50	0.08
Tax benefit	45	0.07
Hedging		
Total	**534**	**0.88**

Directors	Company Information
Peter Newton (Chairman)	Level 3 18-32 Parliament Place
Warren Hallam (Executive Director and CEO)	West Perth, WA 6005
Peter Cook (Non-Exec Director)	+61 8 9220 5700
Simon Heggen (Non-Exec Director)	+61 8 9220 5757
Xie Penggen (Non-Exec Director)	
Yimin Zhang (Alternate for Xie Penggen)	www.metalsx.com.au
Stephen Robnson (Non-Exec Director)	

Top Shareholders	m shares	%
Apac Resources Limited	78	13
BlackRock Group	57	9
Jinchuan Group Limited	44	7
Ausbil Investment Management Limited	32	5

Production Summary	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Nifty throughput	Mt	1.60	1.68	1.68	1.68	1.68
Mined grade	%Cu	2.10	2.10	2.10	2.10	2.10
Combined Recovery & Payability		0.92	0.92	0.92	0.92	0.92
Copper prodn	(kt)	31	33	33	33	33
Mine Life	yr	7.2	5.9	4.9	3.9	2.9
Renison throughput (whole project)	Mt	0.69	0.73	0.72	0.72	0.72
Mined grade	%Sn	1.29	1.36	1.38	1.38	1.38
Combined Recovery & Payability		0.71	0.71	0.71	0.71	0.71
Tin prodn (MLX share)	(kt)	3,177	3,511	3,539	3,539	3,539
Mine Life	yr	13.2	11.5	10.7	9.7	8.7

Costs		Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
Nifty						
Cost / milled tonne	A$/t	117	112	110	109	108
EBITDA / tonne milled ore	A$/t	5	25	47	45	39
Cash costs incl. royalty	A$/lb Cu	2.89	2.76	2.73	2.72	2.70
	US$/lb	2.13	2.07	2.05	2.07	2.06
+ deprn & amortn	A$/lb Cu	3.33	2.92	2.92	2.93	2.88
	US$/lb	2.45	2.19	2.19	2.22	2.20
Renison						
Renison cost / milled tonne	A$/t	136	129	128	127	126
EBITDA / tonne milled ore	A$/t	9	25	24	25	24
Cash costs incl. royalty	A$000/t Sn	18.1	16.1	15.5	15.7	15.9
	US$000/t	13.3	12.1	11.6	11.9	12.1
+ deprn & amortn	A$000/t Sn	21.1	20.3	20.1	20.3	20.4
	US$000/t	15.6	15.2	15.1	15.4	15.5

Price Assumptions	Unit	Jun 16	Jun 17	Jun 18	Jun 19	Jun 20
AUDUSD		0.735	0.749	0.750	0.760	0.763
Copper	US$/lb	2.21	2.51	2.87	2.88	2.75
	A$/lb	3.01	3.35	3.83	3.78	3.60
Tin	US$000/t	16.0	19.6	18.8	19.5	19.5
	A$000/t	21.8	26.2	25.1	25.6	25.5

Sensitivity Analysis	Valuation			FY18 NPAT		
Base Case		**0.88**			**88.7**	
	Sens	-10%	+10%	Sens	-10%	+10%
US Cu price +/-10%	24%	0.67	1.09	19%	71.9	105.6
US Sn price +/-10%	11%	0.78	0.97	9%	80.7	96.7
AUDUSD +/- 10%	34%	0.58	1.18	28%	63.9	113.6
Production +/-10%	4%	0.84	0.91	13%	77.2	100.2
Operating Costs +/-10%	22%	0.68	1.07	31%	61.2	116.2

Unpaid Capital				
Expiry year	No. (M)	$M	Avg ex.	% ord
30-Jun-18	3			0.6%
Total	**3**			**0.6%**

Reserves & Resources June '16	Mt	%	kt	
NIFTY Cu	**34.5**	**1.7**	**581**	Cu
Measured	18.8	2.1	387	
Indicated	7.4	1.2	91	
Inferred	5.0	1.2	60	
INCLUDES TOTAL RESERVE	**5.2**	**1.9**	**312**	
MAROOCHYDORE Cu	**48.6**	**1.0**	**485**	
Indicated	40.8	0.9	375	
Inferred	7.8	1.4	110	
RENISON Sn (MLX share)	**6.5**	**1.5**	**94**	Sn
INCLUDES TOTAL RESERVE	3.4	1.29	43	
RENTAILS Sn reserve (MLX share)	10.5	0.45	47	

Hartleys model June '16	Mt	%	kt	
TOTAL NIFTY INVENTORY	**11.5**	**2.1**	**242**	**Cu**
TOTAL RENISON INVENTORY MLX share	**4.2**	**1.4**	**58**	**Sn**

COMPANY BACKGROUND

MLX completed the takeover of ABY in August 2016.

MLX's main assets are the Nifty Copper Project and 50% of the Renison Tin Project.

Metals X Limited (MLX) is a mid-cap diversified miner. The Company management group Bluestone Tin Limited gained control of Metals Exploration Limited in 2004. The two companies merged to form Metals X in 2006. An initial 19.9% stake in Westgold Resources NL was also acquired in 2006, leading to an eventual merger in 2012 and the establishment of a gold division within Metals X alongside the tin and nickel divisions. Metals X recommenced underground tin mining at Renison in 2008, completing the project's overhaul from dereliction after 2003. A 50% stake in Renison was sold to Yunnan Tin Group in 2009 for A$50M to recapitalise the company after the GFC.

In October 2015 MLX launched a scrip bid for Aditya Birla Minerals Limited (ABY), owner of the Nifty copper mine in Western Australia. The ABY takeover was completed in August 2016, after the issue of 81M MLX shares and payment of A$30M cash component. Aditya Birla's 51% shareholder, Hindalco, sold its MLX shares soon after acceptance. MLX assumed management of the operating Nifty copper mine at the end of August 2016.

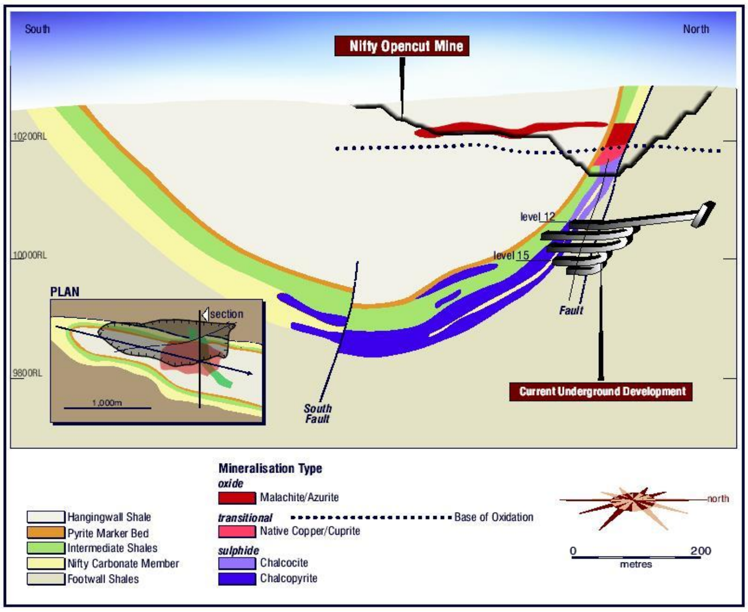
In December 2016 MLX 'demerged' its gold assets into separately listed Westgold Resources Limited, through an in specie distribution to shareholders.

MLX's main assets comprise 100% of the Nifty copper project, 50% of the Renison tin project and 100% of the Central Musgrave nickel project.

NIFTY COPPER OPERATIONS (MLX 100%)

Nifty is 450km south-east of Port Hedland in WA. Oxide copper was discovered at Nifty in 1981 by WMC Limited. An open pit, heap leach, SX-EW operation ran from 1993 to 2004. ABY acquired the operation and surrounding exploration tenements in March 2003 from Straits Resources. A 2.5 Mtpa concentrator was built at Nifty in 2004, with first concentrate produced in March 2006. The 2.3 Mtpa underground mine was first developed in 2006. A paste fill plant was added in 2009.

Fig. 1: Schematic geological section of the Nifty copper mine.



Source ABY, 2014.

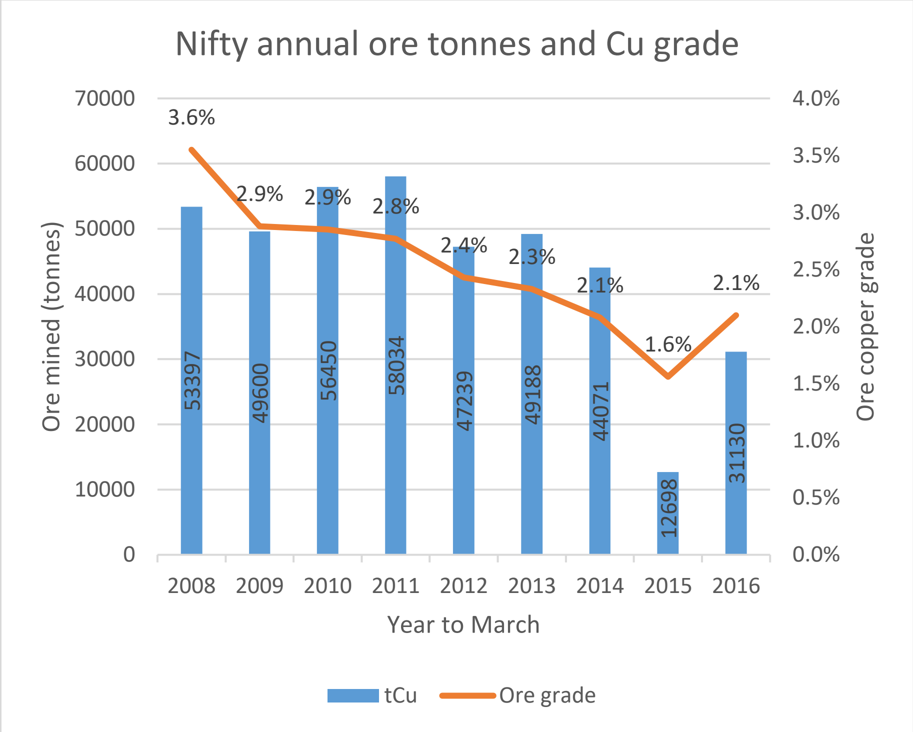
Total Nifty resources as at June 2016 were 23Mt at 2.03% Cu, containing 470kt Cu.

Maroochydore resources of 485kt Cu include 5.4Mt at 1.7% sulphide material.

From 2008 to 2014 Nifty produced an average of 49,000tpa copper in concentrate, with a declining mined ore grade profile (see fig. 2). In March 2014 a crown pillar above the southern Checker Board section collapsed, creating a chimney cave and a sinkhole above the main workings. Mining was suspended as a safety measure while the risk of perched water and aquifer head was assessed by probe drilling. Mining resumed in July 2014 at a reduced output level while remedial measures continued to be taken. A fatal accident at the mine in June 2015 had a further adverse impact on operations.

MLX lodged its takeover bid for Aditya Birla in October 2015, and assumed management of the mine in August 2016.

Fig. 2: Nifty production profile 2008-2016 (year to March 31).



Source: ABY

Nifty's reserves and mine plan comprise long hole open stoping in the Checker Board section, with paste fill. After the sinkhole event in March 2014, ABY and its consultant revised the underground mine reserve estimates for the Checker Board area, taking into account the mine's ground conditions post-sinkhole, and incorporating a lower copper price. According to the consultant access for placing fill at the top of the stopes was limited, necessitating a change to a lower recovery mine plan with some pillared uphole retreat stoping. Reserves were reduced from 15Mt at 2.0% Cu as at March 2013, to 5.2Mt at 1.85% Cu as at March 2016; a net reduction after depletion of 5Mt at 2.2% Cu.

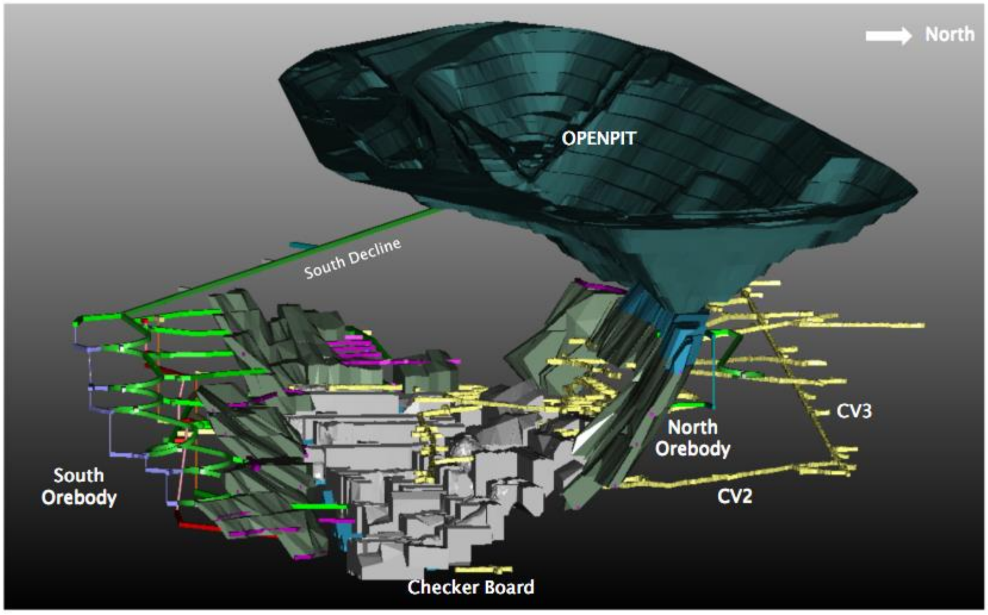
MLX has sought to re-establish access to the upper sections of the Checker board area, with the aim of reinstating some of the sterilised reserves. Access previously restricted by the potential for water ingress has been re-established after completion of probe drilling. MLX expects the process of assessing the sinkhole-affected reserves to take 12-18 months. In the meantime MLX has moved to unaffected sections of the mine, instigating an accelerated underground drilling and mine development program.

Total sulphide resources at Nifty were estimated by ABY as at 31 March 2016 at 23Mt at 2.03% Cu. ABY suspended exploration in 2014. The maximum vertical depth of the resource blocks is 600 metres. About 1,000 m of down plunge potential (south-east of the mine) remains poorly drilled and open for new discoveries.

In December 2016 quarter site costs at Nifty were about $85/t, ore grades 1.9% Cu and the annualised throughput rate was 1.6-1.7Mtpa. Cash costs were ~US$2.05/lb, and total costs were ~US$2.20/lb.

Cash costs at Nifty are estimated at US$2.05/lb.

Fig. 3: Nifty mine layout, May 2013.



Source ABY

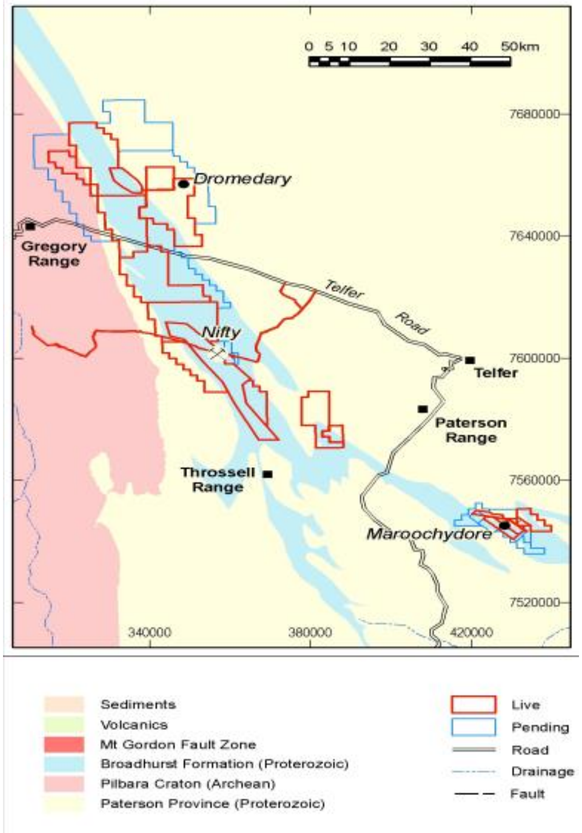
MAROOCHYDORE COPPER (MLX 100%)

The Maroochydore copper prospect is 80km south-east of Nifty. ABY examined the potential for an oxide copper (43Mt at 0.9% Cu in resource) recovery project in 2008 before turning to exploration for sulphide mineralisation in 2011 and 2012. By 2014 drilling had outlined an inferred sulphide resource of 5.4Mt at 1.7% Cu, containing 90,000t Cu. Copper sulphide mineralisation remains open along strike and down dip. Work at Maroochydore was curtailed in 2014.

The Nifty concentrator has the capacity to process 2.5 Mtpa. MLX plans to examine the potential for mining at Maroochydore and trucking the ore to Nifty.

Copper sulphide mineralisation was first drilled in 2011 at Maroochydore.

Fig. 4: Nifty and Maroochydore tenement layout.



Source ABY

CENTRAL MUSGRAVE (WINGELLINA) MLX 100%

MLX is a major tenement holder over layered intrusive complexes in the Musgrave Ranges. The Wingellina nickel-cobalt laterite project is south west of the border between Western Australia, South Australia and the Northern Territory. Nickel mineralisation was discovered at Wingellina in the 1950s. INCO drilled 2,600 holes and sank four shallow shafts at Wingellina before relinquishing its rights in 1971. The project sat dormant until 2001, when a deed of agreement with the Ngaanyatjarra Land Council for access was signed. Metals X farmed into the project in 2005.

Since 2006, MLX has completed considerable drilling and development studies on Wingellina including a feasibility study in 2008, which recommended development of a 40,000tpa Ni, 3,500tpa Co, HPAL project. Central Musgrave resources total 216Mt at 1.0% Ni, of which 95% is limonitic and 5% is saprolitic. Limonite dominant deposits (high Fe, low Mg) are more suited to acid leach processes than clay or silicate (saprolite) type deposits.

In late 2014 MLX sent 100t of Wingellina ore to Korea for POSCO to test as feed for its POSNEP technology, which is an alternative, pyro-metallurgical process designed to produce an 18%Ni ferronickel product on site. POSCO affirmed the applicability of POSNEP processing to Wingellina's limonite ore. Subsequent nickel market weakness stalled progress on further investment or commitment by POSCO and MLX to develop Wingellina. The project is development ready but not bankable at the current Ni price.

RENISON TIN OPERATIONS (MLX 50%)

Renison is 140km south of the port of Burnie in north-west Tasmania. Tin was first mined from Renison in 1890. Under MLX's predecessor the mine closed in 2003, breaking the field's continuous run of tin production since 1935. Between 1960 and 2003 Renison supplied about 4% of total world consumption of tin. By 2003 the workings extended over a strike length of 1,750 metres in the upper levels and to a depth of 900 metres below surface. Underground development included about 90 kilometres of underground roadway and a 600 metre deep internal haulage shaft.

Ore treatment capacity at Renison may be increased by 25% if X Ray based ore sorting is proved effective.

When Metals X assumed management of Renison in March 2004 the mine and processing facilities were run down following three years of capital starvation and partial dismantling of the infrastructure. MLX recommenced underground mining at Renison in May 2008. Since early 2011 the Renison underground mine has been the sole source of ore for the 700,000 tpa Renison concentrator.

At the end of June 2016 underground mine reserves accounted for eight years of project life at 700ktpa. Underground mine reserves lie on the perimeter of worked out areas. The workings cover a 1.9 km by 1.2 km area, and to 1,100 metres maximum depth. Resource definition is in most cases limited by drilling access, and most of the resource positions remain open beyond the reach of drilling.

MLX changed from contract to owner mining at Renison in April 2016, at a capital cost of A$24M of which $20M was fleet financed. Site operating costs have since stabilised at A$110-115/t ore. Capital development rates have dropped back following the pre 2014 development push, so that capital spend and writeoffs are each about A$14M in FY2017 (MLX share).

MLX and its partner are investigating the feasibility of X Ray based ore sorting for Renison. The technology is successfully operating at Minsur's San Raphael tin mine in Peru. Early tests indicate 25%-30 of the crushed ore stream can be rejected for the loss of 2-3% of the contained tin. If the sorting proves effective Renison's output may be expanded for an ~A$8M upgrade to the crusher circuit and the development of additional underground working areas. MLX expects to make a decision on ore sorting by June 2017.

Rentails

Only about 70% of Renison's tin is recovered by the concentrator and over 90,000t of tin have accumulated in Renison's tailings dams since 1968. The recovery of tin and copper from stored tailings was the subject of a definitive feasibility study (DFS) completed in 2009. The DFS considered dredging the tailings to feed a purpose built concentrator and tin fumer plant, producing 5,300 tpa Sn and 2,000 tpa Cu in concentrate. The capital cost of the Rentails project was estimated at A$200 million. Despite attractive indicated returns and knock on benefits in processing flexibility, Rentails remains on the drawing board due mainly to the lower tin price over the last few years.

Rentails is one of world's largest tin resources ready for development in response to higher tin prices. Returns are compelling above US$18,000/t Sn, but without a forward market in tin, balance sheet issues are considerable at any price. MLX and its JV partner are each considering Rentails in the light of tin market developments and options for offtake and/or engineering financing.

Tin

Tin is rarely a by product to other metals, and it is often produced by specialist tin companies. Without cross funding from other commodities tin is susceptible to long supply cycles. The prevalence of easily won, alluvial tin supplies has discouraged capital investment in and exploration for hard rock tin deposits.

The current tin price of US$21,000/t is up from a low of US$13,500 in January 2016.

Tin's fortunes have taken a turn since 2011. Between 1993 and 2011 tin demand increased from 220,000tpa to 350,000tpa on the back of the worldwide push to replace lead-tin solders with tin solders. In 2011 about 80% of the world's mined tin came from one alluvial field in Indonesia, two mine complexes in China, and one mine in Peru. Each of these 4 main centres faced resource depletion, flat to declining mine production, and rising costs. After 2011 demand flattened as the western world completed the transition to tin solders, and a new tin field developed in Myanmar stepped up to fill the supply gap left by the incumbent producers.

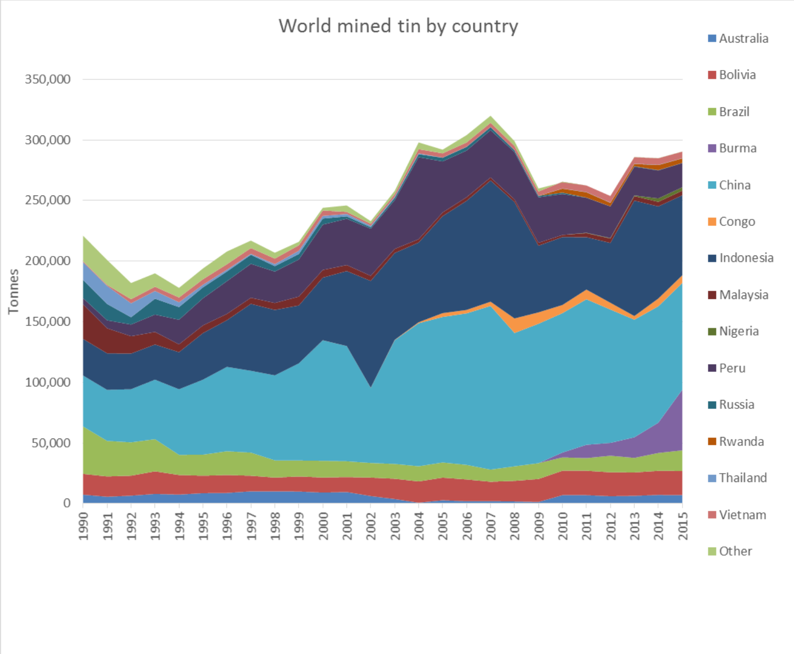
ITRI noted in August 2016 that Myanmar's production may have peaked at 50,000tpa, as high grade open pit sources gave way to lower grade underground mines. According to ITRI, future maintenance of output from Myanmar required new discoveries. Buyers of Myanmar's tin through Chinese processors may also risk contravening US sanctions.

In 2016 tin has been a good performer among the base metals complex. Semiconductor and tinplate demand has surprised on the upside. Historically tin at US$21,000/t has encouraged a supply response, but evidence for it is still to surface.

Fig. 5: LME tin price 2006-2016.

Source IRESS

Fig. 6: World's tin production by country 1990-2015.



Sources USGS, ITRI.

Hartleys' NAV estimate is 88cps using consensus commodity and exchange rate forecasts.

VALUATION AND PRICE TARGET

Key model assumptions;

1. Nifty 11.5 Mt inventory at 2.1% Cu, mined at 1.7 Mtpa. 92% met/payable recovery. The inventory is 2.5 times the June 2016 reserve, in terms of contained copper. Half of Checker Board's sterilised reserves are assumed reinstated and the remainder of the increase in inventory is in undrilled extensions, primarily down plunge. Capital costs of definition and development are included in the model. The mine life is assumed to extend to 2023.
2. Nifty site cost of $A85/t of milled ore, US$82/t concs transport, US$95, 0.09 TCRC, 97% payability → US2.05/lb AISC (C1+royalty+deprn, AUDUSD 0.76).
3. Cu price as per summary table. (US$2.80-2.90/lb).
4. Renison 8.4Mt inventory at 1.4% Sn, mined at 720ktpa, 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 2030.
5. Site cost of A$115/t ore, US$110 concs transport, 92% net pay. US$1.5Mpa Cu revenue → US$15,000/t AISC (C1+royalty+deprn, AUDUSD 0.76).
6. Sn price as per summary table; US$19,500/t.
7. AUDUSD 0.76.
8. A corporate overheads liability is included in the valuation to reflect the cost of management over the operational life of the company. Corporate overheadcosts are estimated at A$7Mpa.

Hartleys' estimated NAV for MLX is 88cps, using price forecasts similar to consensus as set out in the summary model page. A real, after tax discount rate of 7% is used.

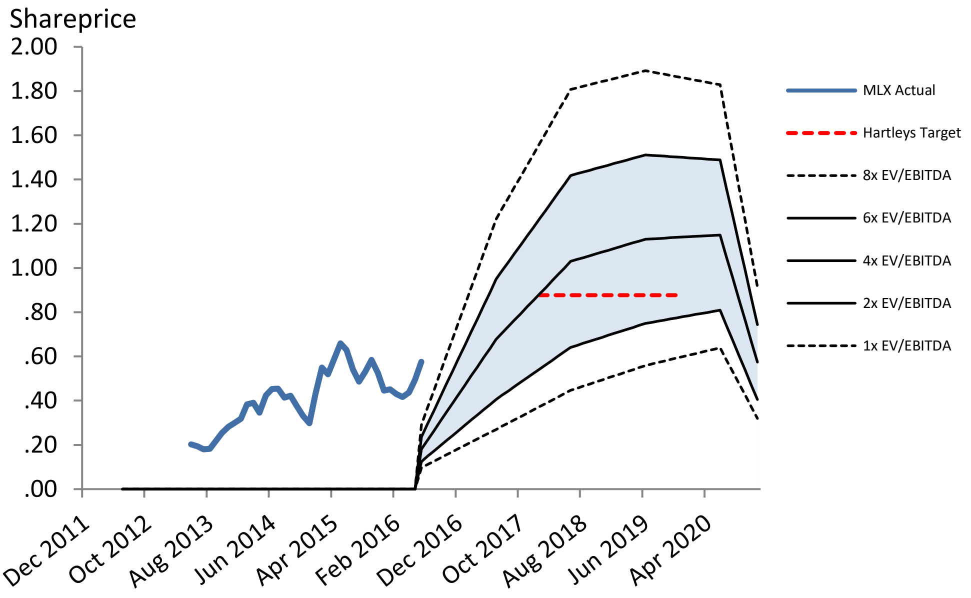
At real spot price assumptions the MLX NAV estimate increases to 90cps, with MLX's share of Renison increasing (to 38cps) and lower copper prices leading to a lower valuation for Nifty (23cps). Undeveloped projects Maroochydore, Wingellina and Rentails are valued informally or in relative terms, and as if they were in separate unfunded entities. The value attributed to exploration (6cps) 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.

Cash and tax benefit values are based on MLX advice.

The 12 month price target for MLX is 7% more than the estimated NAV, or 94 cps.

EV/EBITDA BANDS

Fig. 7: EV/EBITDA Base Case



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	Medium	Nifty is open down plunge and exploration drilling access has been limited. Reserves may also be reinstated within the mine area.
Renison reserve extension	Low	Medium	Renison reserves progress with mine development around the margins of the resource.
Conclusion	*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.*		

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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