

Top End Minerals Limited (ASX:TND)

Unlocking the value from one of Asia's largest  
underdeveloped multi-commodity assets

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Investor Presentation May/June 2017

**Top End Minerals (ASX:TND)**

**Myanmar – the New Frontier**



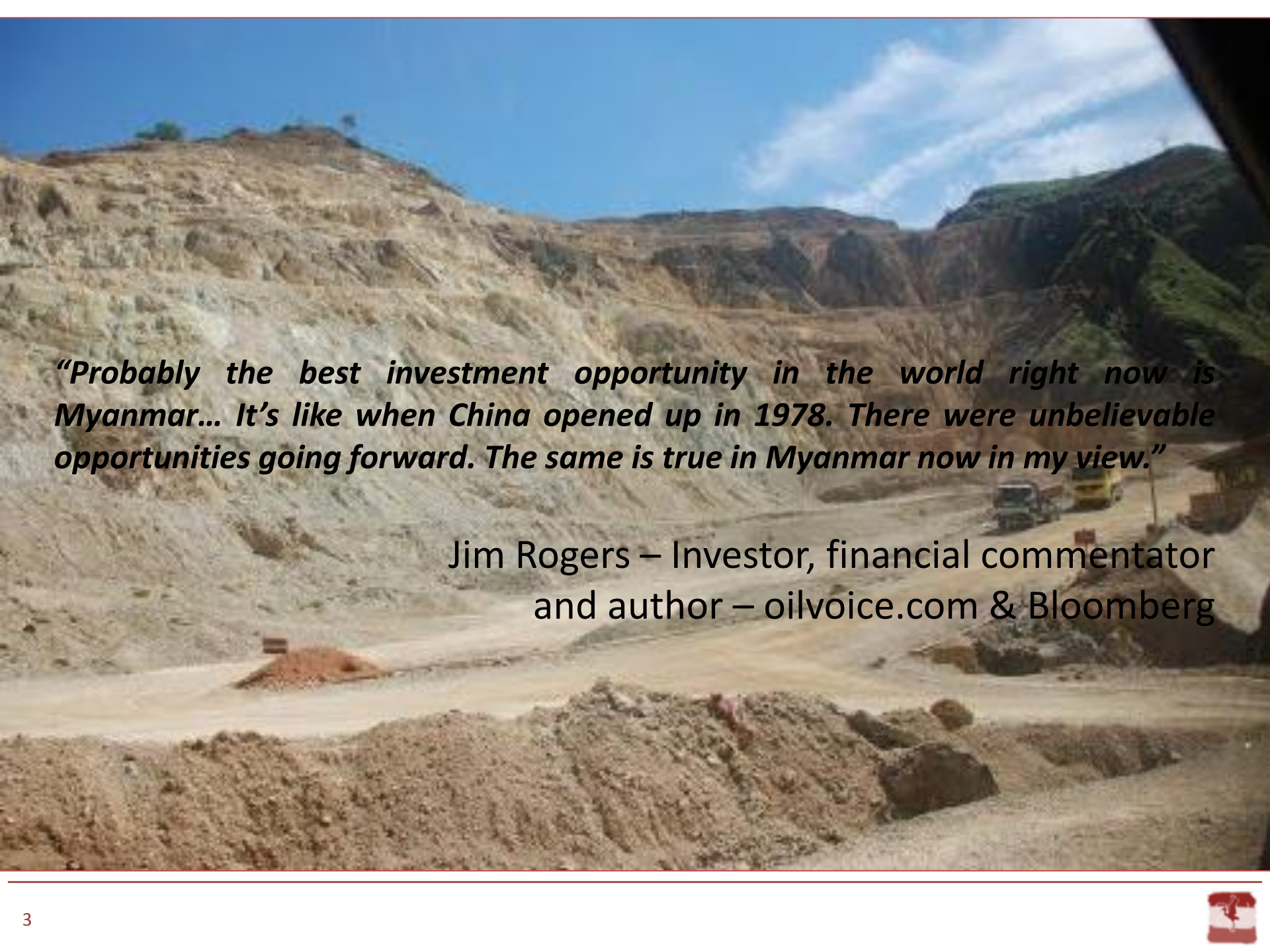
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***“Probably the best investment opportunity in the world right now is Myanmar... It’s like when China opened up in 1978. There were unbelievable opportunities going forward. The same is true in Myanmar now in my view.”***

**Jim Rogers – Investor, financial commentator  
and author – [oilvoice.com](http://oilvoice.com) & Bloomberg**





# Proposed acquisition of Bawdwin Ag-Pb-Zn Mine

- Unrivalled listed-company exposure to a large underdeveloped multi-commodity deposit, reputedly one of the richest mines in the British Empire before WW2
- The mining 'reserve' in 1938 was reported as 10.8 Mt at 14% Zn, 23% Pb, 1% Cu and 670 g/t Ag, with significant Ni and Co also present<sup>1</sup>
- A historical Inferred and Indicated Mineral Resource of 94.49 Mt at 6.49%Pb, 2.84% Zn, 0.26% Cu and 3.79 oz/t Ag at a 3.5% Pb Eq cut-off grade or 42.4 Mt at 8.6% Pb, 3.6% Zn, 0.3% Cu and 5.17 oz/t Ag at a 5% Pb cut-off grade was reported in 1997<sup>2</sup>
- Located ~160 km from China's border – an importer of circa ~USD\$1.3 billion worth of zinc annually
- Opportunity to unlock value through redevelopment of production and extensive exploration
- Supported by credible technical partners – CSA Global, MPS Perth and proven local contractors

<sup>1</sup>Khin Zaw, 1990, Mineralogy, ore metal distribution and zonation at Bawdwin Mine, Northern Shan State, Myanmar (Burma); an Ag-rich volcanic-hosted, polymetallic massive sulphide deposit. Geological Society of Australia Abstracts No. 25, Tenth Australian Geological Convention, Hobart, 1990.

<sup>2</sup>Algar, Warries, and Barnes, 1997, Bawdwin Project Database Development, Resource Estimation and Pit Optimisation, Resource Service Group report to Mandalay Mining Company NL. TND cautions that a Competent Person has not done sufficient work to classify this historical estimate as a Mineral Resource in accordance with the JORC Code 2012 Edition. It is uncertain that, following evaluation, it will be possible to report a Mineral Resource in accordance with the JORC Code 2012 Edition.



# Transaction overview

- Exclusive option for an 85% interest in the Bawdwin Zn-Pb-Ag-Cu Mine Lease in Myanmar. Exercise of the option is subject to approval by the Ministry of Natural Resources and Environmental Conservation and Myanmar Investment Commission. In the event that the Option is exercised, TND will reimburse WMM past expenditure on Bawdwin through payment of consideration of US\$20M.
- Six month option agreement in place with Win Myint Mo Industries Co (WMM) for US\$1.5 million as an up-front non-refundable deposit, and an ability to extend the option period for a further 6 months by payment of a further US\$1.5 million non-refundable deposit.



Bawdwin Mine Open Pit

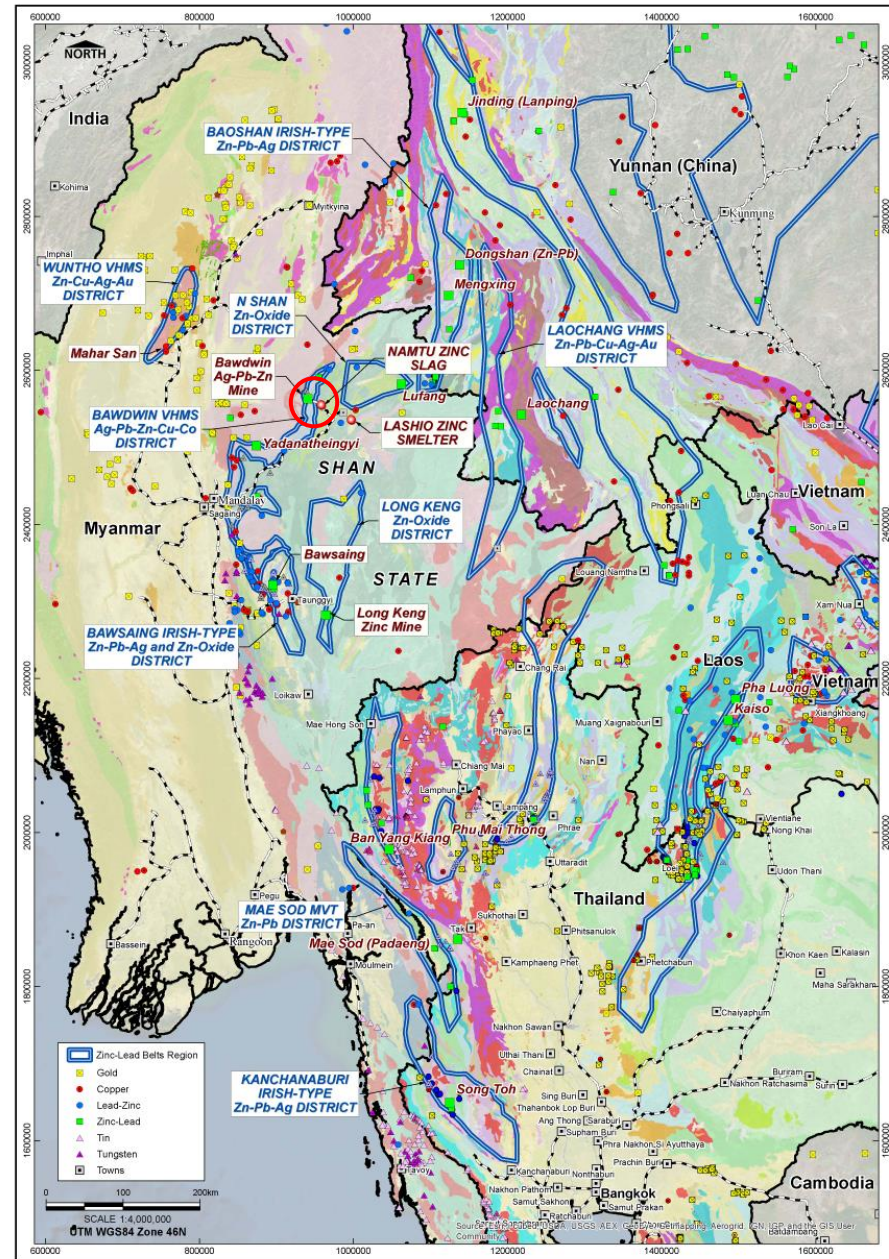




# Bawdwin Ag-Pb-Zn Mine

- Bawdwin is potentially one of the largest undeveloped high-grade Ag-Pb-Zn-Cu deposits globally
- No modern exploration or mining has been conducted – opportunity for TND to unlock considerable value
- Huge exploration and development potential
- – asset value far from realised
- ~160 km from China on Mandalay to Yunnan highway

Location of Bawdwin Mine relative to Zn-Pb belts in Myanmar, Thailand and Yunnan  
Source: CSA Global



# Bawdwin's potential is outstanding

- A historical Inferred and Indicated Mineral Resource of 94.49 MT at 6.49%Pb, 2.84% Zn, 0.26% Cu and 3.79oz/t Ag at a 3.5% Pb Eq cut-off grade or 42.4 Mt at 8.6% Pb, 3.6% Zn, 0.3% Cu, and 5.17 oz/t Ag at a 5% Pb cut-off grade was reported in 1997<sup>1</sup>; this represents lower grade halo mineralisation around the mined high-grade lodes

Table 1. Historical Mineral Resource estimate based on a 5% Pb block cut-off grade (Algar et al., 1997)

LODE	INDICATED RESOURCES					INFERRED RESOURCES					TOTAL RESOURCES				
	Mt	Pb %	Zn %	Cu %	Ag oz/t	Mt	Pb %	Zn %	Cu %	Ag oz/t	Mt	Pb %	Zn %	Cu %	Ag oz/t
Chinaman	12.98	8.63	4.43	0.24	5.96	7.74	8.59	3.62	0.11	4.58	20.72	8.62	4.13	0.19	5.44
Meingtha	3.34	8.34	2.83	1.22	3.16	2.32	10.2	0.95	0.12	2.06	5.66	9.10	2.06	0.18	2.71
Shan	7.49	9.36	4.18	0.73	6.31	8.49	9.36	2.78	0.17	5.12	15.98	9.36	3.44	0.43	5.68
<b>TOTAL</b>	<b>23.81</b>	<b>8.82</b>	<b>4.13</b>	<b>0.39</b>	<b>8.68</b>	<b>18.55</b>	<b>9.14</b>	<b>2.90</b>	<b>0.14</b>	<b>4.51</b>	<b>42.36</b>	<b>8.59</b>	<b>3.59</b>	<b>0.28</b>	<b>5.17</b>

Table 2. Historical Mineral Resource estimate based on a 3.5% Pb Equivalent recovered block cut-off grade (Algar et al., 1997)

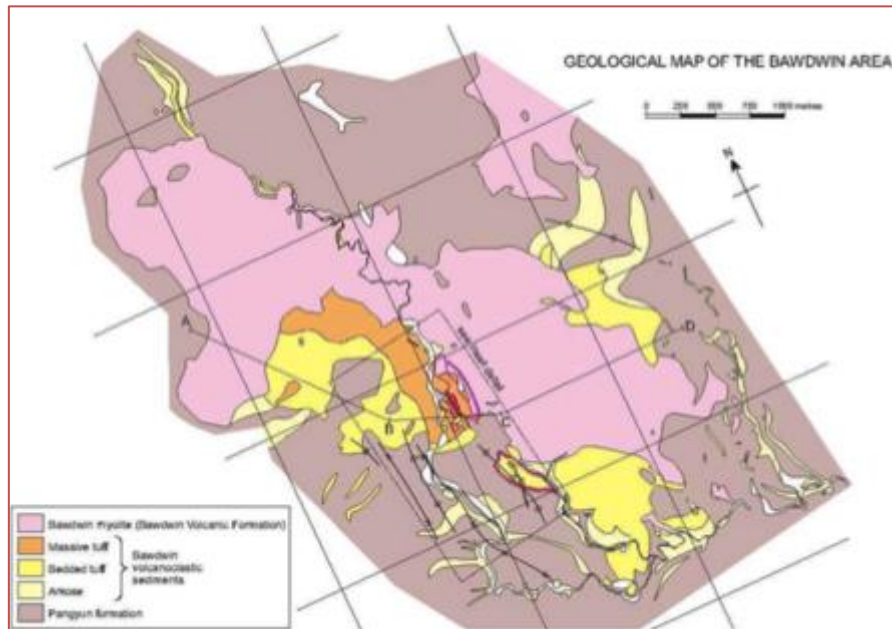
LODE	INDICATED RESOURCES					INFERRED RESOURCES					TOTAL RESOURCES				
	Mt	Pb %	Zn %	Cu %	Ag oz/t	Mt	Pb %	Zn %	Cu %	Ag oz/t	Mt	Pb %	Zn %	Cu %	Ag oz/t
Chinaman	27.90	5.79	3.22	0.24	4.12	19.75	5.33	2.68	0.1	3.34	47.65	5.60	3.00	0.18	3.8
Meingtha	6.66	5.93	2.25	0.21	2.49	3.75	7.73	1.17	0.14	2.06	10.41	4.15	1.86	0.18	2.34
Shan	15.68	6.1	2.96	0.63	4.44	20.75	5.18	2.89	0.19	4.00	36.43	8.32	2.92	0.38	4.19
<b>TOTAL</b>	<b>50.24</b>	<b>5.91</b>	<b>3.01</b>	<b>0.36</b>	<b>4.00</b>	<b>44.25</b>	<b>5.46</b>	<b>2.65</b>	<b>0.15</b>	<b>3.54</b>	<b>94.49</b>	<b>6.49</b>	<b>2.84</b>	<b>0.26</b>	<b>3.79</b>

<sup>1</sup>Algar, Warries, and Barnes, 1997, Bawdwin Project Database Development, Resource Estimation and Pit Optimisation, Resource Service Group report to Mandalay Mining Company NL. TND cautions that a Competent Person has not done sufficient work to classify this historical estimate as a Mineral Resource in accordance with the JORC Code 2012 Edition. It is uncertain that, following evaluation, it will be possible to report a Mineral Resource in accordance with the JORC Code 2012 Edition.



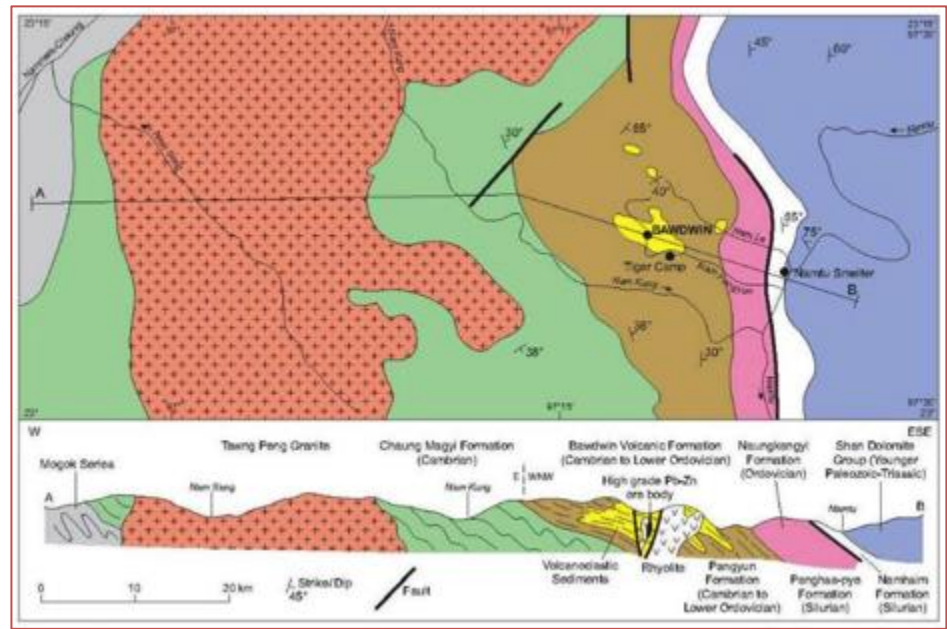
# Bawdwin is vastly underexplored

- Consists of three principal sulphide lodes, Chinaman, Meingtha and Shan along 4km strike
- Bawdwin generally considered a 'structurally modified' VMS deposit or a hybrid epithermal deposit – still largely unexplored
- Potential for a much larger mineralised system to exist with unrecognised Cu-Au potential



Geology of the Bawdwin Mine area. After Bender, 1983

Source: Gardiner et al., in press

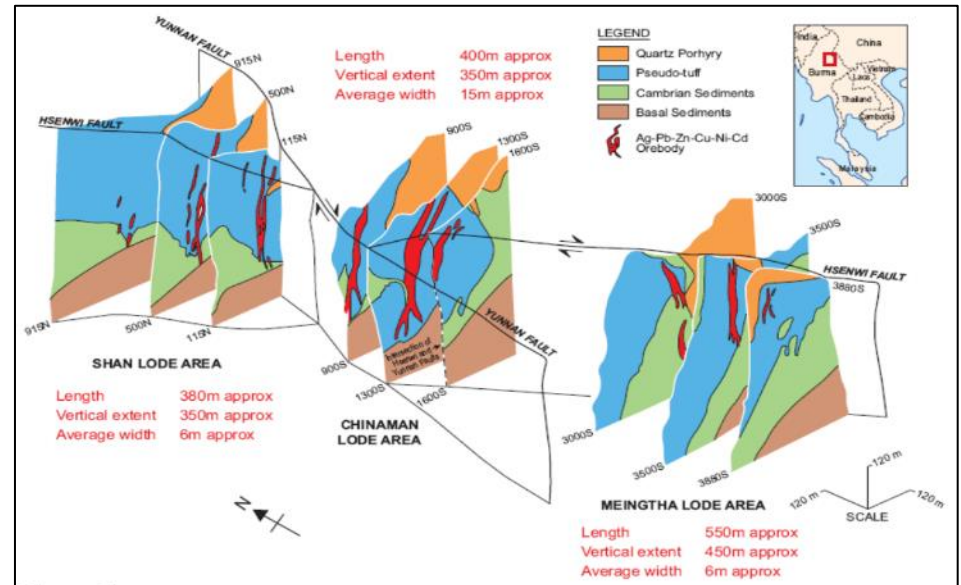
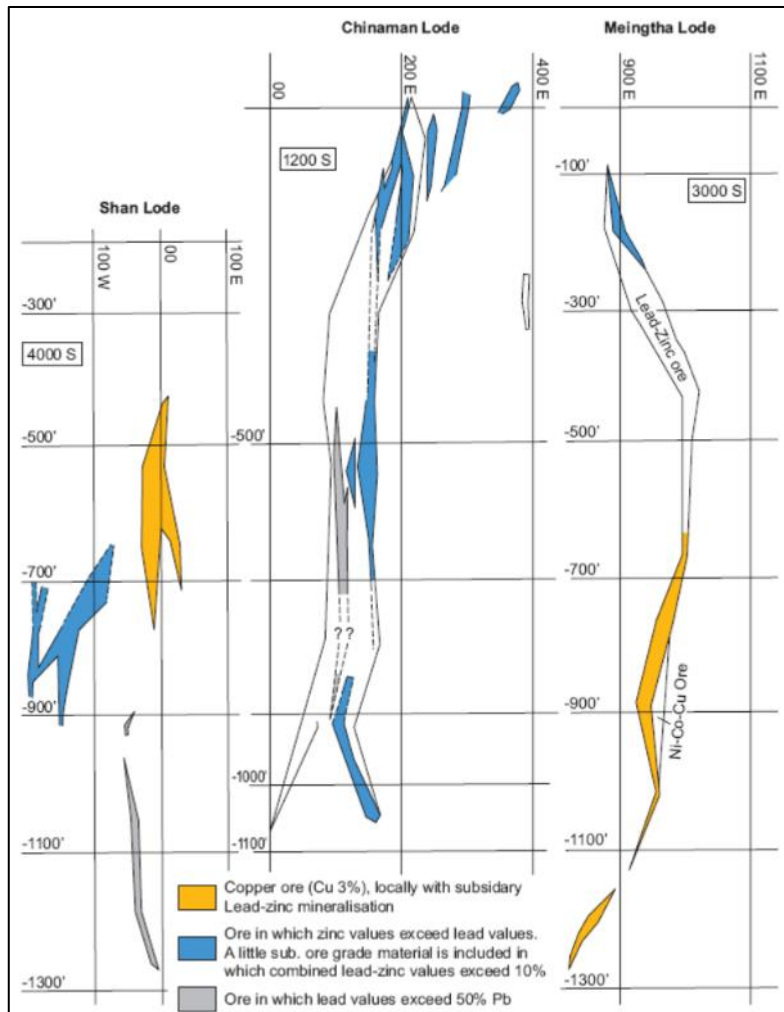


Geological map of the Bawdwin district with district-scale cross section. After Brinkman and Hinze, 1981

Source: Gardiner et al., in press







Cross sections of the Bawdwin Mine lodes. After Bender, 1983  
**Source:** Gardiner et al., in press



## Near term value drivers

- Extensive exploration & work program planned during option period
- CSA Global has been engaged to undertake due diligence
- Discussions with debt and equity financiers is underway and advancing – key value catalyst



# TND corporate snapshot

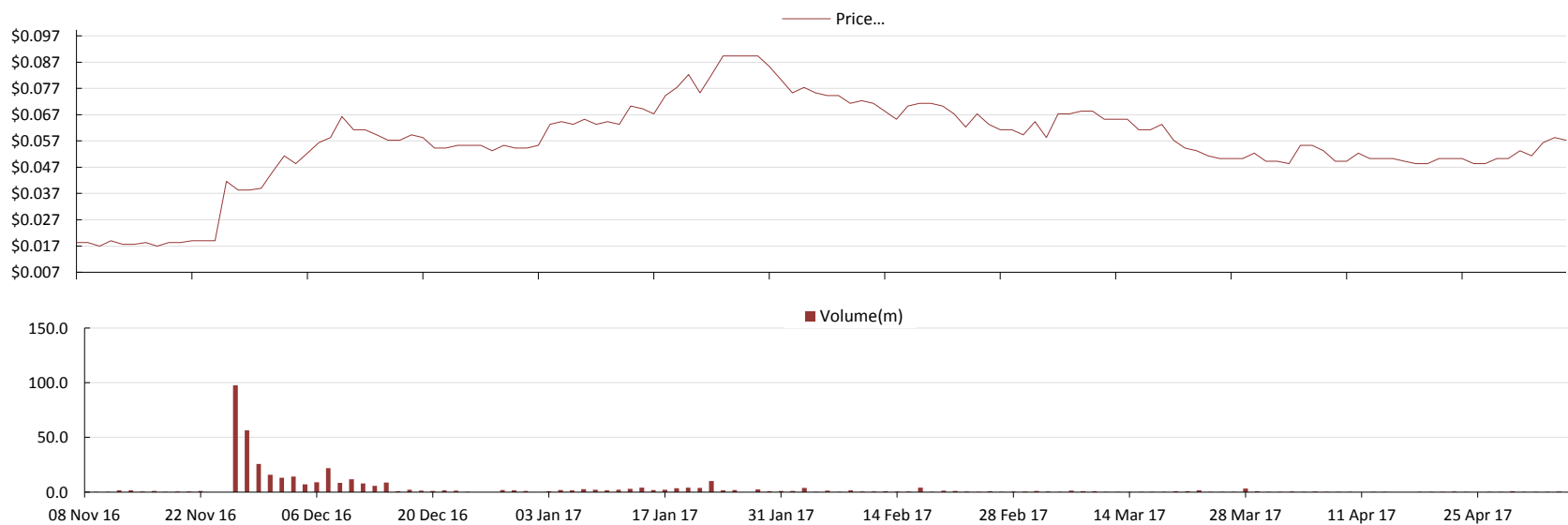
Existing shares on issue	367m
Options on issue	194m
Market capitalisation @ \$0.06	\$22.02m
Cash position (31 March 17)	~\$0.6m

## Board & Management\*

CEO & Chairman	Mr Mordechai Gutnick
CFO & Company Secretary	Mr Peter Lee
Director	Dr David Tyrwhitt

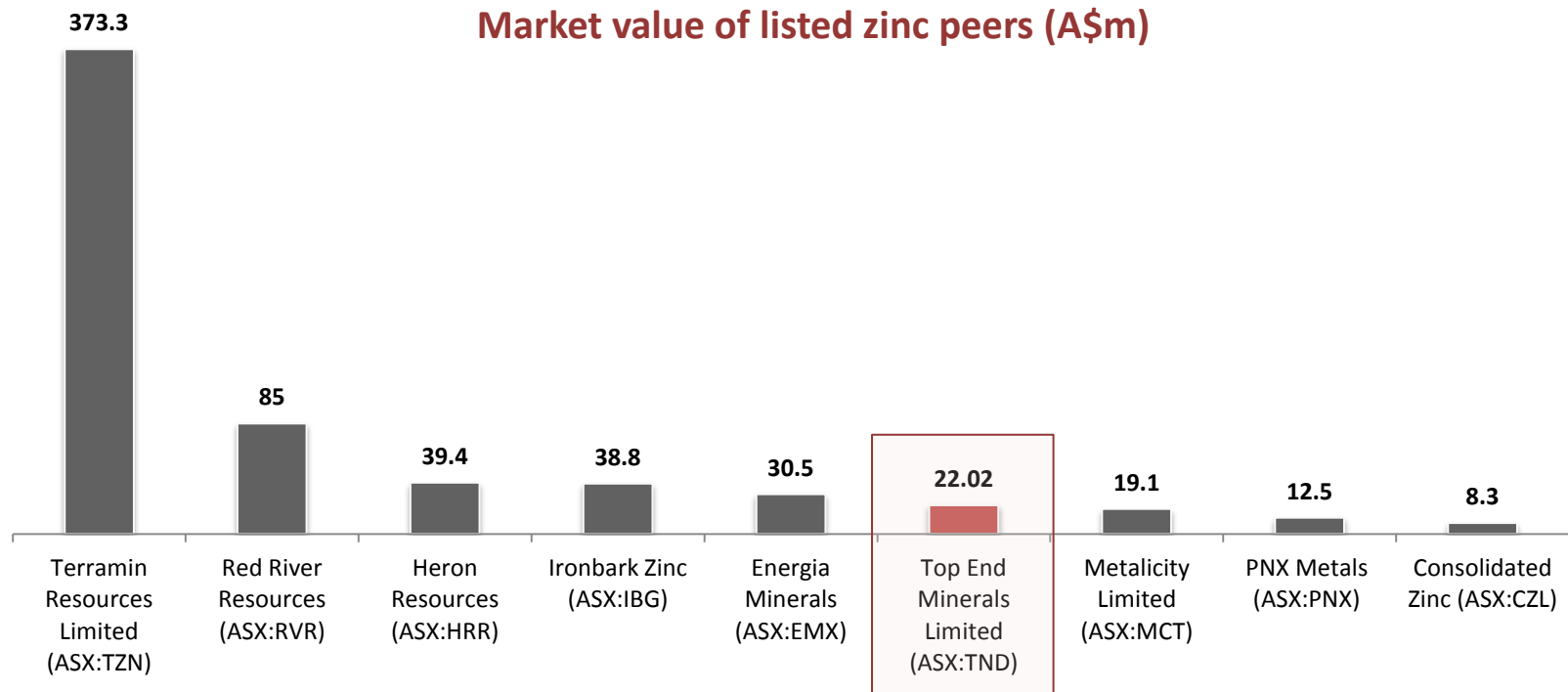
\*Assessing additional experienced Board & management candidates

## Price & Volume: (Period: November 2016 – May 2017)





# ASX-Listed Zinc Producers Peer Comparisons



- TND well placed for re-rating
- Value to be realised from option conversions, production and exploration activities and funding



# Myanmar – Country Snapshot

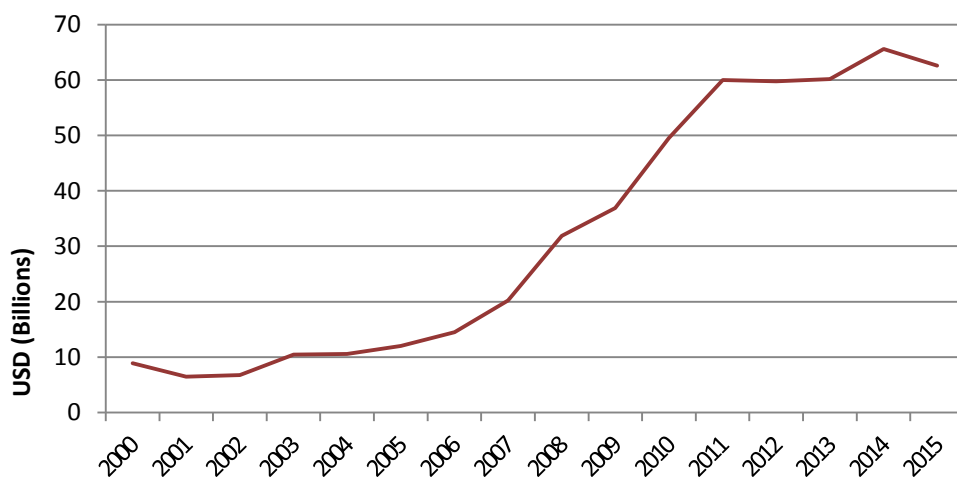
## Snapshot:

<b>Population:</b>	51.4 million
<b>Capital City:</b>	Naypyidaw
<b>Religion:</b>	Buddhist
<b>Borders:</b>	India, China, Thailand, Laos, Bangladesh

## Economic potential:

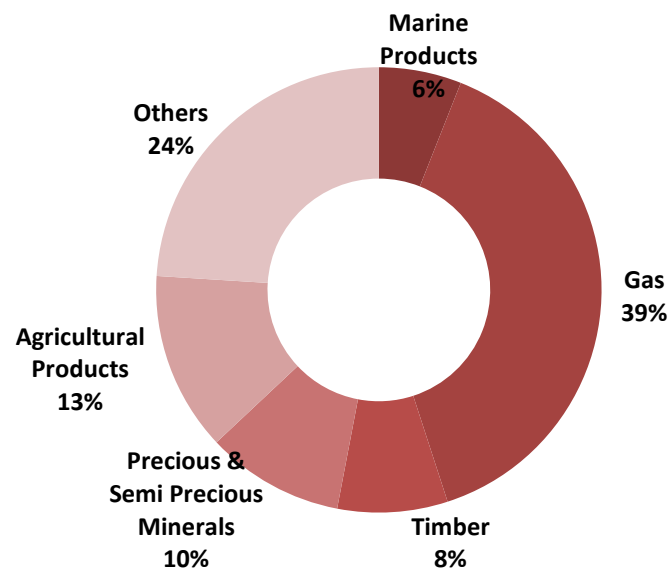
<b>GDP:</b>	US\$56.4 billion
<b>GDP:</b>	US\$1,105 per capita
<b>Average Salary</b>	US\$65 per month
<b>Workforce:</b>	32 million people

**Growth in GDP (USD) 2000 - 2015**



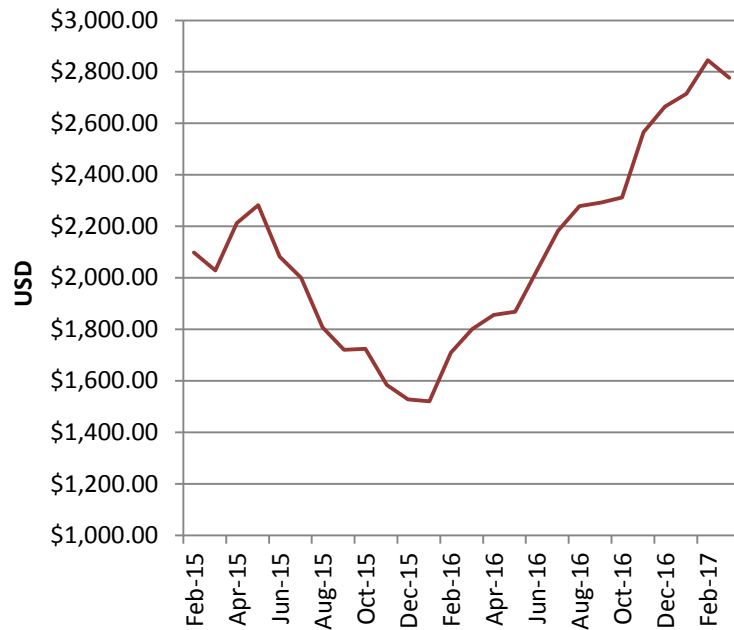
Source: World Bank

**Export breakdown by products**

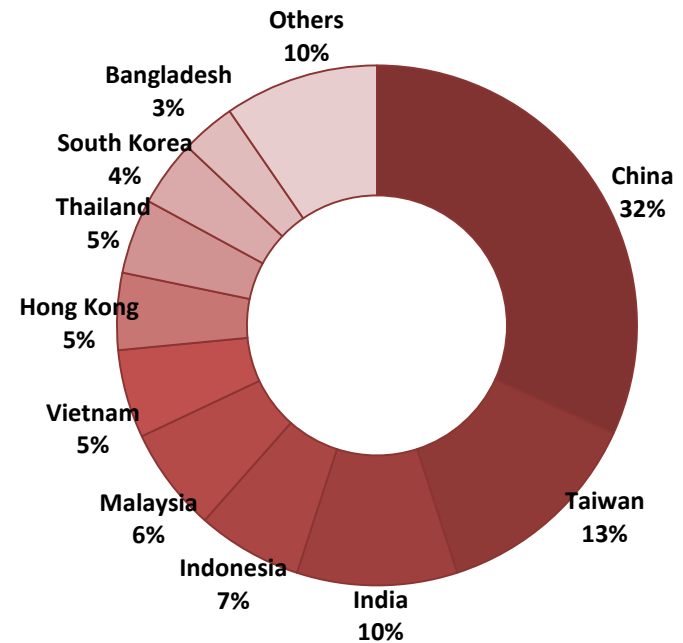


# Strong commodity tailwinds and Asian export exposure

Monthly zinc price per metric tonne (Feb 15 – May 17)



Top Asian Zinc Importers 2015 (imports totalled ~US\$4.4b)



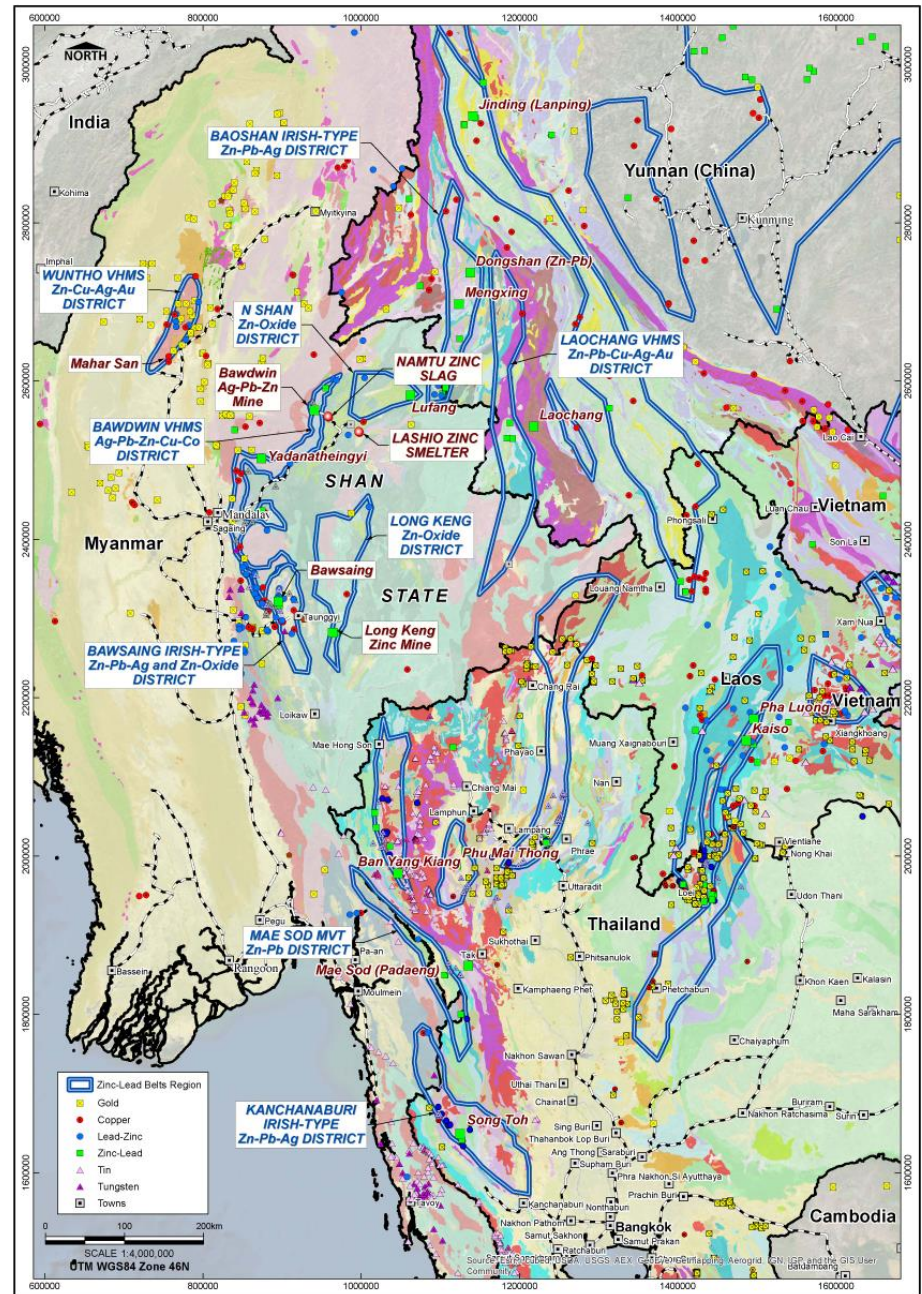
- TND's flagship assets located ~160 kilometres from the world's second largest zinc importer
- China's spend on zinc in 2015 topped US\$1.4 billion





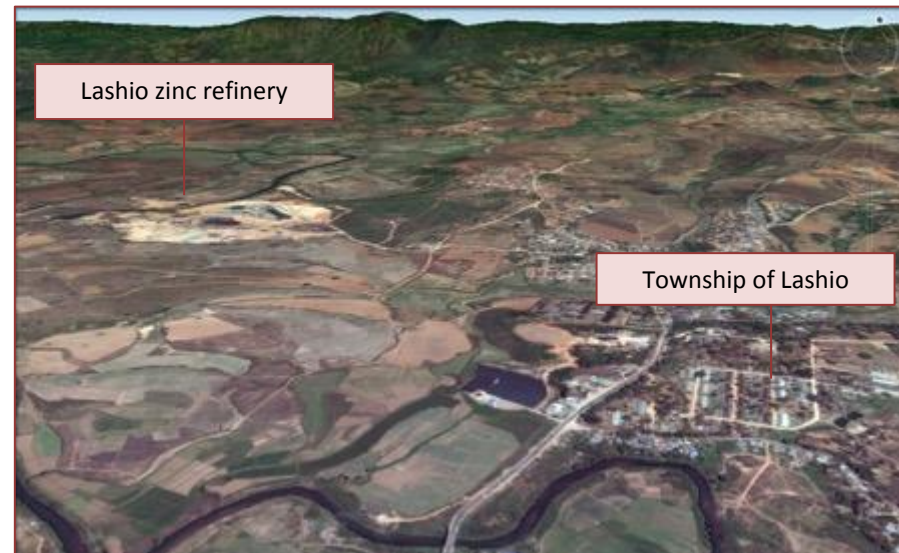
# Myanmar's Shan State – awash with opportunity

- Shan State's geology hugely compelling and untouched
- Enormous underexplored zinc belts
- Number of old mining sites adjacent to Bawdwin
- Multiple large-scale Zn-oxide deposits being assessed by TND and partners



# TND also has options over Lashio Zinc Refinery and Long Keng Mine

- Only modern zinc refinery in Myanmar's highly prospective Shan Plateau zinc and base metal province
- Commissioned in February 2015
- Capacity of 10,000t of LME refined (99.99%) zinc per annum
- Plans to scale up capacity to 18,000t per annum



# Long Keng Zinc Mine

- Covers 8 km<sup>2</sup> of highly prospective ground adjacent to Lashio Zinc Refinery
- Ore is presently being processed at the Lashio Zinc Refinery
- Long Keng occurs in a large Zn-oxide district
- Asset/district can be further developed through modern exploration and development

