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HALLGARTEN & COMPANY

Portfolio Strategy

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Model Mining Portfolio:
Critical Metals Back in Focus

Performance Review – November 2019

Model Mining Portfolio

Critical Metals Back in Focus

- + **A smattering of takeovers in the gold space, most involving all-stock deals are not adding to the pool of capital available for mining**
- + **Western economic growth is holding up, particularly in the US**
- + **Critical metals, and the cultivation of alternative sources thereto, has become a more generalized topic of conversation, if not action**
- ✘ **Gold drifted lower and has now seemingly established at a lower base**
- ✘ **Nickel has given back most of its gains of the last six months**
- ✘ **Zinc has slid backwards after a promising move a couple of months ago, and Lead has followed suit**

How Many Capitulations Can One Have?

We feel safe in saying, despite the uplift in the gold and silver price in the middle of 2019, that this year has been one of the more miserable ones in a not very inspiring decade for the mining sector. How so? Surely the gold uplift redeemed the otherwise bleak landscape. We would contend not. In fact the gold spurt (we call it no less and no more than that) benefitted relatively few, except maybe those who sold into strength. Anybody else that believed it was going to last ended up going down with the precious metals ship.

In a decade when we have had various "capitulations" when investors finally abandon all hope one should have become inured to this sensation but it seems as if we are in one of those moments yet again. Base metals have seen various attempts to rally fade away and the improvement in Zinc in 2018 and Nickel in 2019 happened almost in isolation form the other major base metals.

With gold turning south and silver weakening in tandem, it is surely near that either a cathartic moment of upward movement is achieved or that a wave of investors bail out for good from a sector that has been a serial non-deliverer.

M&A, like the late in the month Kirkland Lake move on Detour Gold, has tended to be a Dance of the Elephants (or maybe the Dumbos) with junior juniors not even being allowed on the dancefloor. All stock deals are not liberating cash for redeployment into new stories or further down the food chain. This is not excessively encouraging. Financing is far from robust which, if healthier, could help sentiments even in the absence of upward momentum in metals prices.

The market these days looks less like a capitulation waiting to happen than the last stage of Napoleon's Retreat from Moscow with starving investors and managements lying frozen by the roadside. Roll on 2020 and hopefully a better climate for the survivors of this latest mining rout.

Critical Metals – Their Latest Day in the Sun

Every once in a while the mining community gets a frisson from one of their favourite metals being mentioned in a television series or movie. A few years back Samarium got exposure from being a strong subtheme in a series of *House of Cards*. The fact that it was out of context and misrepresented as to its uses and criticality did not matter with the old adage that "there is no such thing as bad publicity" coming into play. More recently the second series of *Jack Ryan* has pushed Tantalum into the public eye and the technical underpinnings of what was being said about the metal seemed relatively spot on.

If concerns about criticality have reached Hollywood then there may be hope for us yet. Criticality and Chinese dominance have become popular themes in the last couple of years and, dare we say it, with the British Geological Survey's first Criticality ranking in 2011 (in the midst of the Rare Earth boom) adding significant fuel to the fire.

BGS - Risk Rankings

2015

Element	**Symbol**	**Criticality**	**Main Supplier**
Rare Earths	Lanthanides	**9.5**	China
Antimony	Sb	9.0	China
Bismuth	Bi	8.8	China
Germanium	Ge	8.6	China
Vanadium	V	8.6	China
Gallium	Ga	8.6	China
Strontium	Sr	8.3	China
Tungsten	W	8.1	China
Molybdenum	Mo	8.1	Mexico
Cobalt	Co	8.1	DRC
Indium	In	8.1	China
Arsenic	As	7.9	China
Magnesium	Mg	7.6	China
PGEs	Pl, Pt, Rh	7.6	Sth Africa
Lithium	Li	7.6	Australia
Barium	Ba	7.6	China
Carbon (Graphite)	C	7.4	China
Beryllium	Be	7.1	USA
Silver	Ag	7.1	Mexico
Cadmium	Cd	7.1	China
Tantalum	Ta	7.1	Rwanda
Rhenium	Re	6.5	Chile
Selenium	Se	6.9	Japan
Mercury	Hg	6.9	China
Fluorine	F	6.9	China

Quite a lot of the kudos for that must also go to the Trump Administration which has stumbled into an area it knows little about technically but that was ripe for action after, for many years, having been a victim of globalisation's imperative for "cheap at any price".

How "popular" is popular though? The financial media chattering about China dominance is one thing but it when the average householder gets concerned that the issue really becomes popular. Giving a recent speech on Erbium and 5G we noted that few if any of the public ever knew that the jump from black & white TVs to colour TVs was made possible by Europium and behind that lay the Mountain Pass mine. Equally the new 5G technology seems to come out of the ether, literally, and thus it is not a good idea to ask too many questions about what metals make it happen because one would find out that (notwithstanding Huawei's involvement) the REE component in 5G largely is China-sourced or China-processed. Oops!

Alarm bells though have been ringing in the corporate suites (of Germany and South Korea, more than Detroit) about the vulnerability of the EV "revolution" to Chinese machinations and that has set off a furious hunt for non-Chinese supply chains. Hunting though is not catching and the industrial end users do not want to get their hands dirty mining in exotic locales. This might besmirch their "green" credentials. Neither do they want to dip into their own pockets to fish out filthy lucre to fund down-and-out mining companies struggling to keep body and soul together. This is proving to be an asymmetrical meshing of needs and wants that is rather fatal to getting projects on the road.

The various surveys that followed on the heels of the original BGS Criticality rankings now reinforce the sheer number of metals at risk, though as one can see below each agency producing these lists has differing views of the criticality of different metals within their remit.

Critical Minerals	US (2019)	EU (2017)	Japan
Antimony	X	X	X
Arsenic	X		
Barytes	X	X	
Bauxite	X		
Beryllium	X	X	
Bismuth	X	X	
Borate		X	
Cesium	X		
Chromium	X		X
Cobalt	X	X	X
Coking coal	X	X	
Fluorspar	X	X	
Gallium	X	X	X
Germanium	X	X	X
Graphite	X	X	X
Hafnium	X	X	
Helium	X	X	
Indium	X	X	X
Lithium	X		X
Magnesium	X	X	X
Manganese	X		X
Natural graphite		X	
Natural rubber		X	
Niobium	X	X	X
Phosphate rock/Phosphorus		X	X
Platinum-group elements	X	X	X
Potash	X		
Rare Earth Elements	X	X	X
Rhenium	X		X
Rubidium	X		
Scandium	X	X	
Silicon metal		X	
Strontium	X		
Tantalum	X	X	X
Tellurium	X		
Tin	X		
Titanium	X		X
Tungsten	X	X	X
Uranium	X		
Vanadium	X	X	X
Zirconium	X		X

All the chatter does not provide money for projects. Unfortunately it is only metal price spikes that seem to do so. The soaring price of lithium and Cobalt in 2017 was a case in point and then the Vanadium surge of 2018. However the REE putsch of mid-2019 waxed and waned so fast that no party got any financings done before the brief window of opportunity slammed shut.

Less sexier metals never even get their day in the sun. Tellurium or Cesium could quadruple and it would not generate more than a muffled whisper in the trade journals. The same for individual Rare Earths where Erbium and Dysprosium for example had quite an OK time in 2019.

Portfolio Changes

There was only one portfolio change during the month.

- Closed our Long position in Argonaut Resources. Sold 5mn shares in ARE.ax at AUD 0.5cts per share on November 29th

The Portfolio Move

The portfolio has looked very sickly during November. It ended October at US$3.63mn and then gave up ground to end at US$3.515mn at the end of November. Our Shorts did us no favours with the bizarre Niocorp story soaring even though it has virtually no prospect of succeeding as a Niobium story, a Scandium story nor a Rare Earth story. Not firing on any barrel is a defective weapon indeed. Fortunately the equally wretched Galane Gold started heading south. After briefly hitting 13 cents it became a victim of a reality check and sunk back to 9 cents.

Cash was up slightly to $155k due to our liquidation of the Argonaut holding.

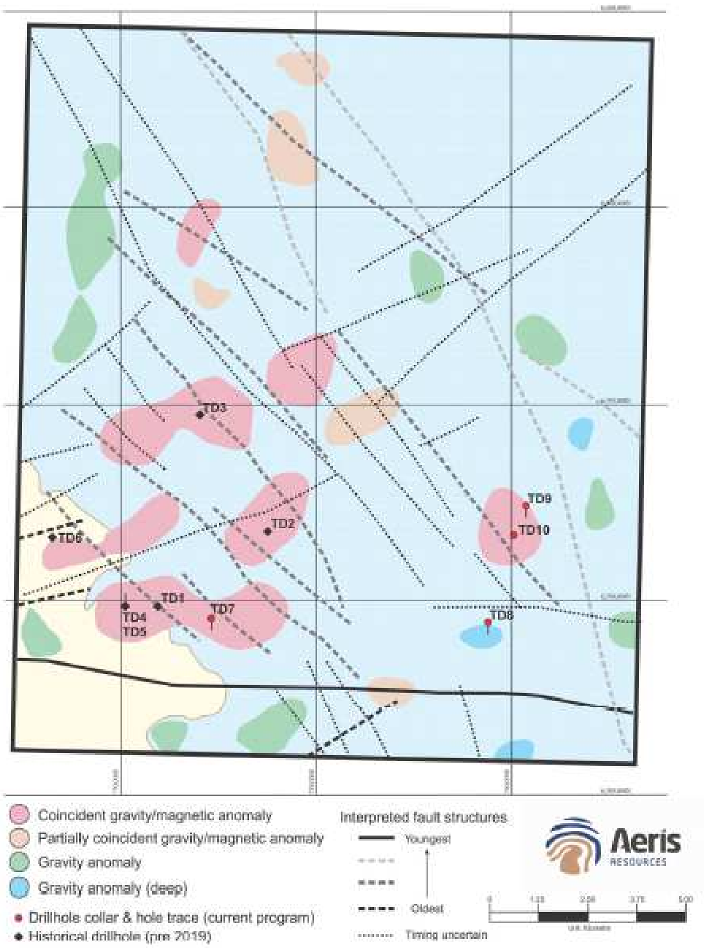
Argonaut – Punching Above Its Weight

Surveys have shown that investors judge management the most important factor in making the decision between investing in one mining entity or another. We must confess that over a series of meetings we were impressed by the vision and persistence of the management at Argonaut Resources, which has the Torrens copper exploration project in South Australia as its main endeavour. Unfortunately though impressive management alone is sometimes is not good enough.

The problems at Argonaut are multifarious. Firstly it was in a minority position to Aeris Resources (ASX: AIS), for whom the Torrens project was not its main game. Thus when the first drilling results of this year's campaign came through with what could most charitably described as dry holes then Aeris baulked at throwing good money after bad. This then produced a tussle with Argonaut wanting to get management of the project (in which they hold only a 30% minority position). The problem is that the drill campaign was being run like that of a major with the first hole being a whopping 858 metres. A later hole TD10 was an even longer 1,280 metres and only encountered a scrawny three metres of 0.18% Cu that was deemed worthy of mention.

We find it hard to recall two juniors undertaking holes of this length. With the added complication of having to drill on a dry lake, and keeping local aboriginal groups satisfied, the whole exercise seemed like very expansive "walking on eggshells". Frankly this level of junior cannot hope to drill holes of this length, come up with little to nothing and yet hope to survive the market's critique of such a strategy.

Aeris decided to cut its losses (without ceding control) while Argonaut wants to persist with this Sisyphean endeavour.



This might have been sustainable if there were some other distractions, but Argonaut have been so intent of "betting the farm" on these super-deep holes at Torrens that it has effectively starved its Zambian operations of exploration cash (though mooting a London listing) and not advancing either its foothold in the Higginsville district of Western Australia. We now doubt that Zambian assets alone can make a demerger to the AIM fly due to Zambia being in the penalty box of late. The African split-out needs more flesh on the bones.

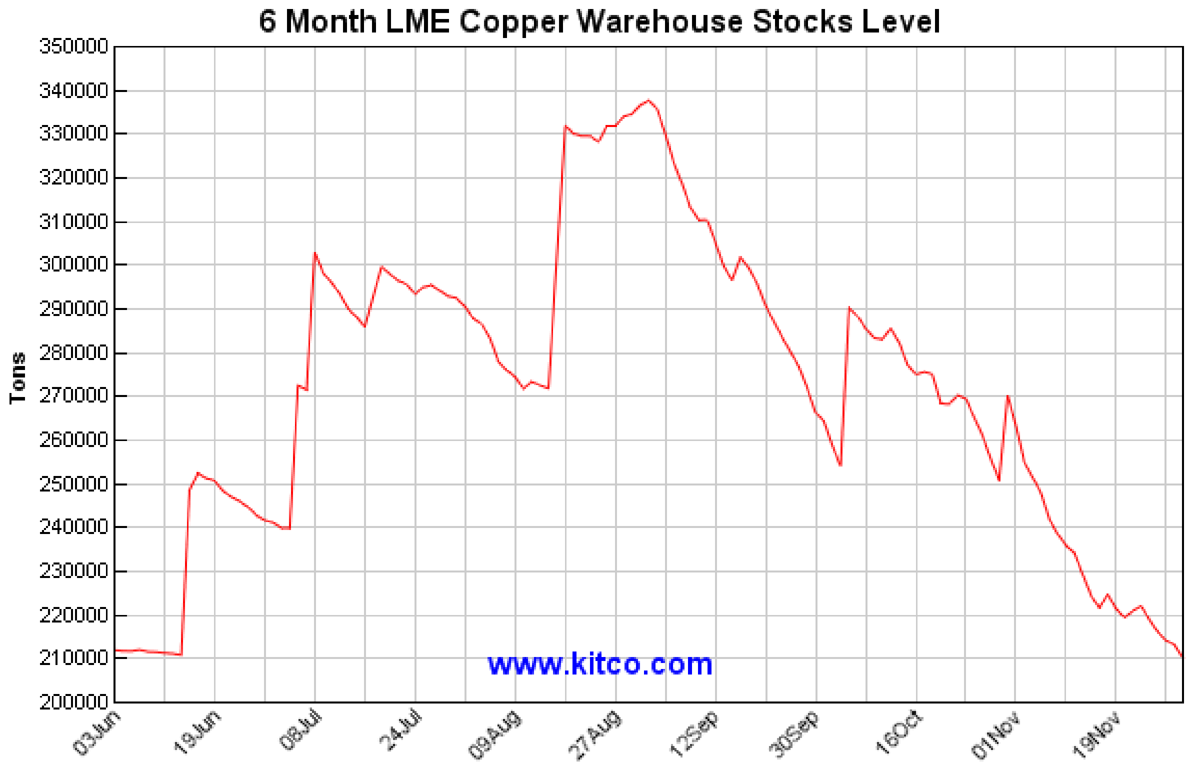
So therefore alas we cleaned out the Argonaut holding at a sizeable percentage loss during the month.

Parting Shot

The Red Metal has long been regarded as Dr Copper for its indicative powers, yet well may we say "Physician, heal thyself" for it has been one of the more torpid base metals while Zinc and Lead have shown more liveliness in recent times.

The fans of Copper have wrung their hands at the fact that it cannot seem to catch a break. The latest travails are blamed on the Trade War and its effects on the Chinese usage of Copper. Our thesis is more nuanced. We would argue that since 2008, Copper has come fully under Chinese control and has become the subject of strategic stockpiling (to maintain his dominance) and has also become a useful (in all senses of the word) store of value for those companies in China that were disinclined to stash their cash as dollars or in gold. What better than a valuable and yet useful commodity that you could stack in your yards or warehouses and not have assessed by the State as an asset.

In line with our theory that China is not just seeing lower growth but is actually in recession the indications have come to us that money is extremely tight in China, particularly dollars. Therefore the uncounted copper stocks accumulated over 10 years are one of the easiest things to toss overboard when one wishes to raise cash in a hurry. Thus we are more inclined to the view that it is not the Chinese buying or using less copper that is the problem but that a vast stash of wealth is being liquidated to help companies survive the cash and credit squeeze induced by the so-called "Trade War".



Certainly the LME charts would seem to indicate a trend of steadily declining stocks of the metal which usually indicated a prospect of tighter supply and higher prices. Instead what we see is liquidation by stressed holders. It is not evident in any way that this stress is in the West, therefore it is most likely Chinese converting their copper "ballast" into ready cash.

The tendency of the Chinese government (and its boosters) to be recession-deniers does not help as it makes such phenomena as we see in copper even more inexplicable whereas putting recession as an option on the table makes liquidation all the more credible.

All stockpiles come to an end and we suspect that whatever unnecessary copper stocks that the Chinese *Mittelstand* might have to throw overboard in the cause of raising cash have already been jettisoned. Thus an eerie silence hangs over the copper markets at the current moment.

Mining Model Portfolio as at: 1st December 2019

	Security	Initiated	Currency	Price Avg.	Price Current	Portfolio Weighting	Change in Value	12-mth Target
				Long Equities				
Various Large/Mid-Cap	Teck Resources (TECK.B)	5/29/2009	CAD	22.46	20.8	6.6%	-7.4%	$30.00
	Sherritt International (S.to)	7/11/2013	CAD	1.28	0.19	1.5%	-85.1%	$1.00
	Metals X (MLX.ax)	5/29/2014	AUD	0.67	0.12	1.2%	-82.1%	$0.80
Uranium	Uranium Participation Corp (U.to)	10/20/2010	CAD	5.36	4.23	7.8%	-21.1%	$6.00
	GoviEx (GXU.v)	6/29/2015	CAD	0.08	0.14	4.1%	70.4%	$0.35
Zinc/Lead Plays	Zinc ETF (Zinc.L)	6/2/2010	USD	7.63	7.29	8.1%	-4.4%	$9.00
	NorZinc (NZC.to)	12/9/2011	CAD	0.82	0.085	0.3%	-89.6%	$0.22
	Myanmar Metals (MYL.ax)	11/29/2018	AUD	0.06	0.04	1.8%	-33.3%	$0.13
	Ascendant Resources (ASND.v)	10/31/2016	CAD	0.49	0.2	1.3%	-59.1%	$1.00
	Telson Mining (TSN.V)	3/19/2018	CAD	0.79	0.12	1.0%	-84.8%	$1.10
Silver Producer	Excellon Resources (EXN.to)	11/8/2018	CAD	0.74	0.84	4.1%	13.5%	$1.35
Silver Explorer	Southern Silver Exploration (SSV.v)	8/25/2016	CAD	0.49	0.23	1.4%	-52.6%	$0.35
Silver ETF	IShares Silver ETF (SLV)	7/12/2019	USD	14.17	15.92	8.8%	12.4%	$18.00
Gold Producers	Para Resources (PBR.v)	2/17/2017	CAD	0.23	0.13	1.6%	-43.5%	$0.58
Coking Coal	Colonial Coal (CAD.v)	6/4/2018	CAD	0.35	0.42	4.1%	20.0%	$1.10
Project Generator	Altus Strategies (ALTS.v)	6/28/2019	CAD	0.09	0.08	2.6%	-11.1%	$0.24
Metals Processor	IBC Advanced Alloys (IB.v)	4/29/2016	CAD	0.3	0.15	0.4%	-50.0%	$0.25
Tungsten Producer	Almonty Industries (AII.v)	7/31/2015	CAD	0.19	0.58	4.3%	207.5%	$1.00
Copper Explorers	Panoro Minerals (PML.v)	1/22/2018	CAD	0.37	0.1	0.7%	-72.6%	$0.65
	Western Copper & Gold (WRN.to)	4/25/2017	CAD	1.57	0.96	2.4%	-38.9%	$2.10
Vanadium Developer	Vanadium Resources (VR8.ax)	11/23/2018	AUD	0.11	0.03	0.9%	-72.7%	$0.25
Lithium	Neometals (NMT.ax)	7/31/2014	AUD	0.3	0.2	4.2%	-34.0%	$0.32
	Lithium Power Intl (LPI.ax)	10/25/2017	AUD	0.44	0.25	1.7%	-43.2%	$0.95
Scandium Explorer	Scandium International (SCY.to)	8/23/2016	CAD	0.14	0.09	1.3%	-35.7%	$0.30
	Platina Resources (PGM.ax)	10/25/2018	AUD	0.07	0.02	0.9%	-69.2%	$0.18
Gold Explorer	Banyan Gold (BYN.v)	11/14/2017	CAD	0.06	0.05	2.8%	-19.4%	$0.15
	Cabral Gold (CBR.v)	3/27/2019	CAD	0.21	0.11	6.2%	-46.3%	$0.35
	Gunpoint Exploration (GUN.v)	11/9/2018	CAD	0.5	0.55	2.7%	11.1%	$0.75
Fertilizers	Verde Agritech (NPK.to)	9/17/2019	CAD	0.8	0.46	2.3%	-42.5%	$1.36
Cesium et al.	Pioneer Resources (PIO.ax)	7/26/2019	AUD	0.017	0.01	1.1%	-41.2%	$0.06
Rare Earths	Northern Minerals (NTU.ax)	6/9/2011	AUD	0.14	0.06	2.2%	-57.5%	$0.28
	Neo Performance Materials (NEO.to)	10/25/2018	CAD	17.32	12.03	4.4%	-30.5%	$23.00
Mining Media/Events	Aspermont (ASP.ax)	3/1/2019	AUD	0.009	0.01	4.4%	11.1%	$0.02
Unlisted	New Noble Group	15/11/2017	SGD	0.2	n/a	n/a	n/a	
Suspended/RTO	Cabo Drilling (CBE.v)	9/28/2016	CAD	0.025	0.015	n/a	-40.0%	
	NET CASH					**155,496**		
				Short Equities				
						Weighting		
Shorts	NioCorp (NIO.to)	9/28/2018	CAD	0.61	0.82	72.00%	-34.4%	$0.40
	Galane Gold (GG.v)	4/28/2016	CAD	0.06	0.1	28.00%	-66.7%	$0.03

Current Cash Position	**155,496**
Current Liability on Shorts Not Covered	**295,694**
Net Cash	**451,190**
Current Value of Bonds	**0**
Current Value of Long Equities	**3,063,812**
TOTAL VALUE OF PORTFOLIO	**3,515,002**

Short Equities	**-11%**
Long Equities	**111%**

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