

HALLGARTEN + COMPANY

Portfolio Strategy

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Model Resources Portfolio:

Let the Cold War (re)Begin

Performance Review – July 2023

Model Resources Portfolio

Let the Cold War (re)Begin

- + Silver holding up much better these days than gold
- + Tin prices strengthened further over the last month and have the potential to break through the \$30,000 per tonne mark
- + Glencore said to be upping its copper exposure in Argentina, while bidding for more nickel exposure in Brazil
- + Gallium/Germanium export ban by the Chinese has provided an enormous wake-up call for those who thought that Rare Earths were the West's only vulnerability
- + Germanium ban is a positive for Teck is its struggle against Glencore and has spurred Trafigura to review its own potential to produce Germanium in Tennessee
- + Zinc creeping up again after its unfortunate flirtation with the key \$1 per lb mark
- Lithium carbonate's recovery in Yuan terms has turned downwards again reflecting the establishment of a new range just below Yuan 300K
- ★ The cost-of-living crisis across Western countries is likely to crimp take-up of EVs, with their high price tags
- ✗ Interest rates continue to rise with little consideration having been given to the need for worker catch-up

Big Sticks and Small Carrots

When we were recently writing our review of the takeover battle between Teck and Glencore a colleague said, "don't forget to mention the Germanium" and we nearly did. It proved to be an important reminder as Germanium (Gallium) became eminently newsworthy only a few weeks later when China decided to turn off the spigots of both metals as part of the tit-for-tat over Chinese access to Western semi-conductor output. The Chinese ban spurred a surge in Wikipedia and Google traffic as pundits and journalists scurried to get *au fait* with the metals. For us, it was lucky we had been so recently hot off the press with our thoughts. As for Gallium, we happened to be one of the few that also knew where a primary Gallium deposit was hiding in full sight.... Though we were not telling.

In the Teck review, we noted Glencore's economy of details, when it came to the metals the merged entity would produce. This became even more poignant when one delves deeper and looks at the critical metals/minerals that emanate from Teck's facilities particularly in light of Glencore's role as somewhat of a hunter-gathere for China. When these metals are brought into the harsh light of day one can see reasons why the Pentagon might fire up the Bat Phone to the White House and then the White House put though a hurried call to Ottawa advising "No way, Jose".

The chief critical metal at risk under potential Glencore control would have been Germanium. Teck

controls the Western world's supply of Germanium metal with nigh on 30% of production. Germanium metal is used as a semiconductor in transistors and other electronic devices, in optic fibre networks and in infrared night vision systems for military use. In recent years, consumption of Germanium military grade infra-red lenses has surged and the metal also has applications in highly efficient solar panels used in space. With applications for Germanium metal in defence and Germanium tetrachloride in fibre optics cable the assault on Teck should be raising some eyebrows in defence circles, that is if they even notice.

The DoD of the US, on its own website cited Nancy Albertson, a chemist and program manager for DLA Strategic Materials as saying ""Mainland China pretty much has a chokehold on the market right now, so if it decided to either ramp up the cost or cut us off completely — and that's not unheard of — that would be a very big issue for us" as she announced an increased effort by the US to recycle Germanium.

The U.S. relies on imports for over 50% of its germanium needs, and nationwide consumption was about 30,000 kilograms in 2020, according to the U.S. Geological Survey. The Defence Logistics Agency program is expected to yield 2,200 to 3,000 kilograms of recycled germanium a year — nearly 10% of the nation's annual need — for use in night-vision and thermal-sensing devices in platforms like Abrams main battle tanks, Bradley Fighting Vehicles, Apache helicopters and naval systems.

The criticality of Teck's output was further evidenced when force majeure was declared some five years ago when one of their furnaces blew up, sending Germanium prices sky rocketing.

While a somewhat old statistic, Reuter cited U.S. Geological Survey data showing that China produced more than 70% of the 155,000 tonnes of total refined Germanium production in 2016. We doubt this dominance would have changed at all in recent times. As is well-known when it comes to the morality of supplying China with critical metals, Glencore, in the view of many, has all the morals of an alley cat. Can the US allow Glencore to achieve a stranglehold on Teck's Germanium output? Is this a repeat of the US's massive own-goal in allowing the sale of Cabot's specialty fluids division to Sinomine which gave China dominance of the Cesium market?

Chess or Chinese Roulette?

We made an initial comment to reporters that it was a strategic game of chess which prompted the more learned Chess-fans to ask what the end game might be? But upon further reflection it seems more like a game of Russian Roulette in which the Chinese keep taking a bullet. Strategically, if the big game is seizing Taiwan then China has made a major blunder. By signalling to the West which metals that the West is vulnerable to a squeeze on supply, it thus prompts the West to take preventative action. This by its very nature means that a surprise swoop on China (accompanied by a shutdown of strategic metals supplies) is defanged as a Blitzkrieg Day plus 1 issue in the West because the West will already have girded its loins against such an eventuality. By a cumulative process of these type of predatory actions (e.g. the Rare Earth export ban to China over the Senkaku Islands dispute in 2011 and now this latest) the West has had its wake-up call and lethargically, but eventually, gotten itself out of bed.

Over and beyond losing the surprise "Gotcha" effect in the event of a Taiwan shooting war, China is

facing the loss of markets for its output of these metals on a long-term basis. The metals are not unique to China, with common fly-ash from many coal-fired power plants containing Germanium and similarly waste flows from zinc and bauxite smelters being also sources for Gallium. China has no special advantage here. It used to be cheap but China has reached the end of "cheap"... something we predicted in an op-ed in the The Banker journal as long ago as 2005. We feel confident that China's share of both metals' global market will go spiralling down from here. They can try predatory pricing to try and regain a foothold, but that threat can also be nullified if Western end-users are more inclined to go for secure supplies, over cheap supplies. That change of mindset is the main fallout from these tit-for-tat bans and correspondingly China's main faux pas in all this.

In these two metals, in particular, they will see that the global challengers to their dominance are not tin-pot Rare Earth promotorial types as in 2011, but rather Teck, RTZ and Trafigura/Nyrstar (amongst other potential entrants). China should have heeded the variation on the old Pottery Barn rule... you break it, you (don't) own it.

Portfolio Moves

During the month we added a LONG position in Sanu Gold to the portfolio after a lunch meeting with them in London recently.

In Memoriam

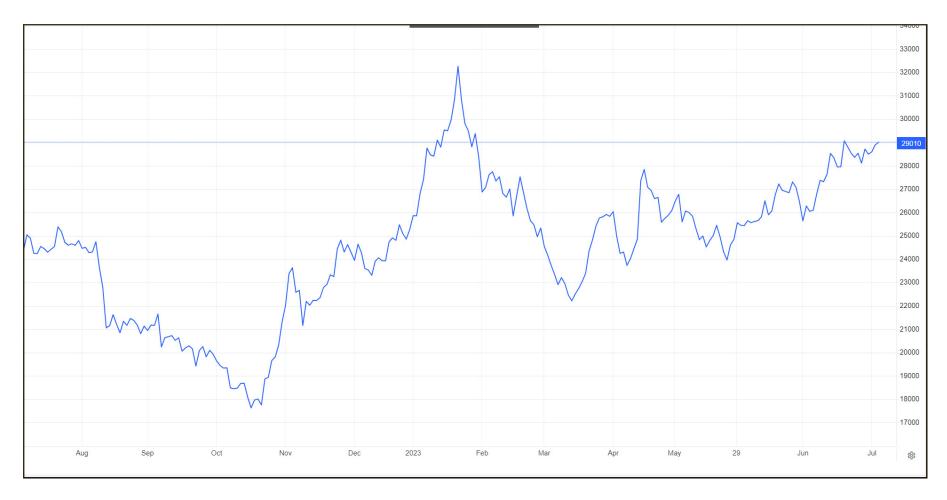
Saddened to hear of the passing of Don Bubar of Avalon. Truly, he at Avalon (and the crew at Great Western) were into Rare Earths before they became a thing at the end of the first decade of this century. Avalon's market cap flirted with the \$1bn mark at the height of the boom because he had been ready on the launch pad when so many others were floundering about trying to find out what was categorized as a Rare Earth. He was cheery when his market cap was at its heights and still cheery when it was back around \$20mn. Greatly missed...

Tin in a Range

Tin continues to look like one of the strongest performing metals in 2023. If it wasn't for the flaccidity of the Chinese economy it would be even stronger as reports of shortages of concentrates at Chinese smelters leading to shutdowns.

The situation is scarcely going to get better with supply problems in Burma now impacting. Comments have been circulating that it is the terminal status of some of these overexploited Burmese mines that is causing the problem. They need to be replaced with new (non-Chinese controlled) production not with the power of prayer.

Our favoured Tin exposure, Alphamin (AFM.v) continues to power upwards and hit a 12-month high in the last month as its truly has become the proxy for Tin exposure in Western markets. It is overdue to graduate from the TSX-v and preferably get itself a London listing.



Source: Trading Economics

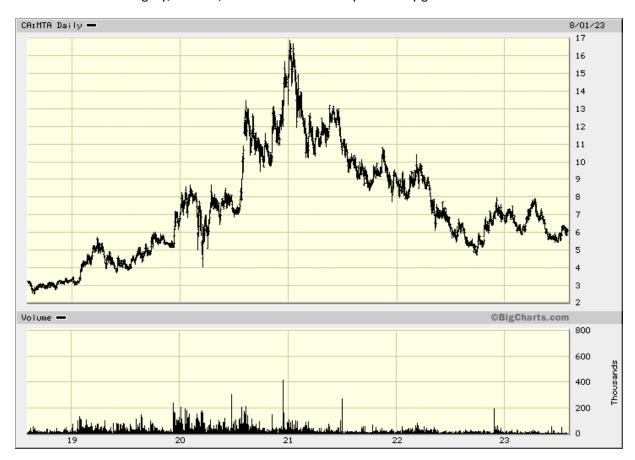
Royalty Companies on the Rack

The royalty company space has gone from a market darling top a pariah in quite a short time and the 24 months have been particularly hairy.

The good, the bad and the indifferent have found themselves gapping down as investors headed for the hills. The good times meant that some managements thought their previous promises of high payout ratios (as dividends) were no longer needed (though high payout ratios to management were needed).

They have paid the price.

In the indifferent category, Metalla, has a chart that looks particularly grim.



In the good category, our preferred stock in the space has long been Elemental (TSX:ELE), that was the merger of two of our previous LONG positions (the other being Altus).

As its chart, on the following page, shows the ride has been much less traumatic than Metalla's and deservedly so. Its purchase of a portfolio of South32 royalties in late 2020 was the deal that has stood it in good stead during the downtown. One cannot beat royalties on "likely" producers over royalties on interesting projects held by nevergunnabe promoters, faking it as developers.



We reiterate our **LONG** rating on Elemental with a 12-month target price of CAD\$1.52.

In the "Could Do Better" Category...

The first Future Minerals Forum in 2022 was very much Saudi Arabia trying to open a window for investors/miners outside to look in. The second one in 2023 was a total 180-degree rotation with it being more about the Kingdom looking outwards. Maybe the lesson of the first version was that the country didn't need investors *per se* and that the few projects being put out to tender were too large for junior or medium sized miners and not that sexy for large miners. So, it became all about empowering Saudi investors (or miners... a breed few and far between) to go forth with their money bags and bring home some assets.

The waters were somewhat muddied by the frenetic utterances of Robert Friedland, including trying to persuade the audience he had read the Koran cover to cover. Nevertheless, they paid off when, in May, the mining giant, Ma'aden (Saudi Stock Exchange Tadawul: 1211), signed an agreement with Ivanhoe Electric to purchase a 9.9% cent stake in the company for US\$126.5mn. Persistence pays off. But it also signalled to the family groups that dominate the Saudi economy that it was smiled upon to make mining investments outwards.

Then in recent days, Manara Minerals Investment Company, a joint venture between Ma'aden and the

Saudi sovereign wealth fund, Public Investment Fund (PIF) signed a binding agreement to acquire a 10% stake in the base metals company that Vale (sorta) wants to set free. We expounded at length on this subject in our March 2023 Monthly, musing on the potential and limitations at Son of Vale.

The purchase price that Manara paid was supposedly based upon an enterprise value of \$26 billion and the deal is subject to regulatory approvals and other conditions. It is expected to be completed in the first quarter of 2024. The price paid by Manara and an entity called Engine No. 1 (buying 3%) was reportedly a combined \$US3.4bn.

Ma'aden has a 51% stake in Manara, while the PIF holds a 49% interest.

Mining is a key component of Saudi Arabia's Vision 2030 plan, which aims to reduce the country's dependence on oil and gas revenue. The kingdom aims to more than triple the mining sector's contribution to the nation's economic output by 2030.

Under a five-year strategy announced in 2021, the PIF aims to more than double the value of its assets under management to \$1.07 trillion and commit \$40bn annually to develop Saudi Arabia's economy until 2025.

The latest transaction will be financed through Ma'aden's own resources though, in June, Ma'aden said it would be increasing its share capital by 12.3 billion Saudi riyals (\$3.2bn) to strengthen its capital base to boost growth.

We can't help thinking that this rather small stake is definitely undershooting the fire power that both Ma'aden and PIF can mobilise. Moreover, it's getting them a "seat at the table" but that's about all. Vale is still in the driving seat and its hand on the steering wheel for twenty years, since taking over Inco, has been a heavy and uninspired one. Hopes of setting this division free recede as Vale seems to think it can have its cake and eat it too. Do the Saudis need to be part of an imagination vacuum? How does that help enhance their skillsets? If anything, it might make them think mining is dull and without vision (the "Vale Way" in base metals).

Manara has redefined the words "baby steps" by putting a ~US\$3bn price tag on them and we don't see how it adds anything to Saudi's mining sector revenues (except via a dividend).

Parting Shot

The punditry on the upcoming BRICs confab is truly laughable.

Firstly, for those not subject to failing memories, BRICs in its original incarnation, as a brainchild of Goldman Sachs, was four countries, not five. How the basket case of South Africa went from being a mere plural "s" to being a fully-fledged member, despite its multifarious problems, eludes us.

The four (now five) were seen in the late 1990s as being the countries of the future. Russia, of course, is now a disaster area and totally beyond the pale (Pale?) whereas in the late 1990s it was seen as a

country that (maybe) was coming in from the cold (war). The rest, as they say, is history with major multinationals retreating like Napoleon from Moscow, with the Russians being the ones left to freeze in the snow as everyone (except Unilever) head back upon the tracks they made in the 1990s.

As the Latin American joke goes, Brazil is the country of the future... and always will be.

The new Big Idea (of course spawned in Peking.... the new/old capital of China that we shall use henceforth to mess with their minds) is that the Five (a Mighty Handful, not to be confused with the Russian composers who previously held the title) will now all vote to be independent of the US... by adopting the Yuan or some simulacrum thereof. If any of these "observers" are actually seeing India adopting the Yuan (currency of a country they were recently in a shooting war with in the Himalayas) then we strongly suggest eye tests, in not sanity checks.

This all goes to show that the chattering classes need new false teeth.

Recent & Upcoming

In the last month we published a review of the Argentine Nuclear Energy & Uranium scene.

In coming weeks, there is a scheduled Initiation on African Gold. There is also planned a sector review on Boron wannabes and a mine trip note on our July excursion to the altiplano of Salta province in Argentina where we visited Lithium *salares* and Abra Silver's Diablillos project.

MODEL RESOURCES	PORTFOLIO @ END JULY					Change	
	Security	Ticker	Currency	Price	last 12 mths	last mth	Target
LONG EQUITIES							
Discouring all arms (Mid Com	Hochschild	HOC.L	GBP	0.76	-7%	6%	£1.00
Diversified Large/Mid-Cap			-		- 1		
	Sherritt International	S.to	CAD	0.49	17%	2%	\$0.95
Uranium	Sprott Physical Uranium	U.UN.to	CAD	13.01	-13%	3%	\$16.00
	GoviEx	GXU.v	CAD	0.12	-60%	-8%	\$0.25
Zinc/Lead Plays	WisdomTree Zinc ETF	ZINC.L	USD	8.39	-9%	8%	\$11.00
	Luca Mining	LUCA.v	CAD	0.47	176%	-2%	\$0.70
Silver Explorer	Southern Silver Exploration	SSV.v	CAD	0.19	-17%	6%	\$0.28
	Norseman Silver	NOC.v	CAD	0.07	8%	17%	\$0.12
Silver ETF	IShares Silver ETF	SLV	USD	22.69	21%	9%	\$24.00
Gold Producer	Soma Gold	SOMA.v	CAD	0.57	54%	12%	\$0.85
	Asante Gold	ASE.cn	CAD	1.5	355%	-12%	\$2.40
	Orvana Minerals	ORV.to	CAD	0.18	-45%	29%	\$0.32
Gold/Antimony Developer	Perpetua Resources	PPTA.to	CAD	5.00	42%	3%	\$7.50
Metallurgical Coal	Colonial Coal	CAD.v	CAD	1.70	-23%	12%	\$2.45
Royalties	Elemental Altus Royalties	ELE.v	CAD	1.26	5%	8%	\$1.52
Copper Explorers	Panoro Minerals	PML.v	CAD	0.13	-7%	-7%	\$0.30
	Phoenix Copper	PXC.L	GBP	0.261	-10%	19%	£0.30
	Aldebaran Resources	ALDE.v	CAD	0.85	21%	-4%	\$1.32
Tungsten	Almonty Industries	AII.v	CAD	0.59	-34%	-2%	\$0.95
	EQ Resources	EQR.ax	AUD	0.08	63%	14%	\$0.13
Graphite Developer	Blencowe Resources	BRES.L	GBP	0.0445	31%	-7%	£0.09
Cobalt	Jervois Global	JRV.ax	AUD	0.06	-85%	-14%	\$0.35

	S PORTFOLIO @ END JULY		1	Price	Change I		12-mth
	Security	Ticker	Currency		last 12 mths	last mth	Target
LONG EQUITIES		_	T				
Vanadium Developer	Vanadium Resources	VR8.ax	AUD	0.07	-13%	0%	\$0.14
Lithium	Neometals	NMT.ax	AUD	0.52	-53%	4%	\$0.75
	Lithium Power Intl	LPI.ax	AUD	0.29	-46%	-3%	\$0.80
	Century Lithium	LCE.v	CAD	0.84	-42%	-13%	\$2.38
Cesium/Lithium	Essential Metals	EXX.ax	AUD	0.49	0%	17%	\$0.55
Scandium Developer	Scandium International	SCY.to	CAD	0.04	-50%	-20%	\$0.11
Gold Explorer	Cabral Gold	CBR.v	CAD	0.14	-50%	17%	\$0.20
	Gunpoint Exploration	GUN.v	CAD	0.65	3%	10%	\$0.75
	Sanu Gold	CSE:SANU	CAD	0.08	-73%	-11%	\$0.75
	Desert Gold	DAU.v	CAD	0.06	-25%	0%	\$0.18
	MetalsTech	MTC.ax	AUD	0.23	-38%	0%	\$0.45
Rare Earths	Rainbow Rare Earths	RBW.L	GBP	0.1275	9%	34%	£0.17
	Neo Performance Materials	NEO.to	CAD	8.53	-41%	4%	\$14.60
Tin Miners	Alphamin	AFM.v	CAD	1.02	36%	2%	\$1.35
	Metals X	MLX.ax	AUD	0.3	-6%	7%	\$0.38
Mineral Sands	Sheffield Resources	SFX.ax	AUD	0.5	-2%	4%	\$0.72
Oil & Gas	Shell	SHEL.L	EURO	23.8	-99%	2%	£24.00
SHORT EQUITIES							
Shorts	NioCorp	NB.to	CAD	6.27	-31%	-6%	\$4.00
	Golconda Gold (ex-Galane Gold)	GG.v	CAD	0.14	-65%	-30%	\$0.13
	Cleantech Lithium	CTL.L	GBP	0.49	128%	17%	£0.25
	Texas Mineral Resources	TMRC	USD	1.00	-48%	20%	\$0.30

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