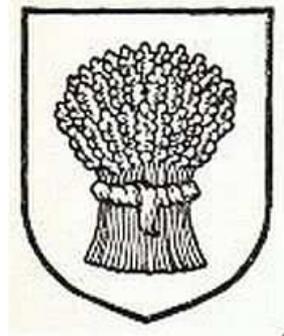


Tuesday, May 4, 2021



# HALLGARTEN & COMPANY

Portfolio Strategy

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## Model Resources Portfolio: Ten Green Bottles...

Performance Review – April 2021

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# Model Resources Portfolio

## Ten Green Bottles....

- + Tin has gone interstellar, bursting through \$30,000 and then forging on
- + Copper surged through \$4.50 and borders on record price territory
- + Zinc challenging its 2020 highs again
- + Both gold and silver started to regain momentum
- + Despite this Silver/Gold ratio holding firm at 66:1
- + Tungsten continued its long slow rise
- + Good rebound in global economies..... thus far
- ✗ Antimony pulled back slightly
- ✗ Dumb transactions are appearing like the Fortune/RoxGold marriage of unequals

### Chinese Eclipse?

Who ever imagined that Chinese dominance in critical metals would be self-correcting? Progressively over the last few years (and the next few years to come) the balance has swung and will continue to swing away from China.

We have a situation where a swathe of metals that have generated fears (and government sponsored lists) that China has a stranglehold on strategic metals. However we would posit that Chinese dominance is actually in full retreat from a perilous situation in early 2020. As we know governments are notoriously backward looking and the calculations of criticality are, currently, so 2015....

In the meantime we are seeing, on the ground, that Rare Earths (particularly Heavy Rare Earths) have moved into a situation where China is a net importer, in Antimony the share that China has of primary mine production is plunging, non-Chinese sources of Tungsten are proliferating while even Tellurium, Scandium and Gallium are being prised from the vice-like grip of Chinese producers.

Like the old ditty, "Ten green bottles standing on the wall, if one green bottle should accidentally fall, there'll be nine green bottles standing on the wall..."

This process will not happen overnight but the fears of pundits in the West are stoking the counter-attack and now actors in Rare Earths (like MP and Energy Fuels) stand poised to effectively replace the US dependence upon Chinese Rare Earth supplies and the actions of Perpetua Resources might supply

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half of US needs for Antimony from a mine in Idaho, for the first time since the 1940s, while Almonty with its Tungsten mines in the Iberian peninsula and South Korea crack Chinese dominance of the hardest metal. With this development the threat of China to Western machine-tool makers goes into a retreat like Napoleon's from Moscow. One company alone, Rio Tinto, is throwing Chinese dominance of Scandium and Tellurium into doubt.

The Chinese, as we have often said of late, have overplayed their hand. Gone are the subtleties of Deng Xiaoping and they had been replaced by the Godzilla-like manoeuvres of Xi. He has stomped across the global landscape putting everyone's antennas a-waving. All this has achieved has been to send a warning signal to the frogs that they should get out of the boiling water... and fast.

The problem China has, as we keep repeating, is that it is at the end of a massive investment cycle while the West is just beginning (or restarting). China has over-exploited and undersold its critical metals (not something we could ever accuse the West of having done). Moreover invincibility of the China model has been undermined by firstly, the outbreak of the pandemic and now the woeful inadequacy of its vaccines. While millions may have died of the virus, China's global ambitions may end up being yet one more fatality from Long Covid.

## **Tellurium**

It's many a moon since we last wrote on this metal. Not having any direct exchange-listed exposures has left it with a sort of orphan status, but its importance for photovoltaic cells in solar panels is indisputable and makes it a key metal in the "green revolution". Tellurium does not come from any primary Tellurium mines but rather is a by-product of telluride Gold mines and some copper mines.

Tellurium is used in a variety of applications, but the most important is cadmium-telluride thin-film solar, which accounts for as much as 40% of global demand. After that there are advanced thermo-electric devices for heating and cooling, which use around 30%. It is also used as an additive in steel and in the production of rubber. And it has applications in medical devices and CT scanning.

In early March some signs started to appear that the long-dominant position of China in Tellurium was going to be broken. This dominance has helped China position itself in the solar-panel market in recent decades. It has also aided in driving some non-Chinese players out of that business.

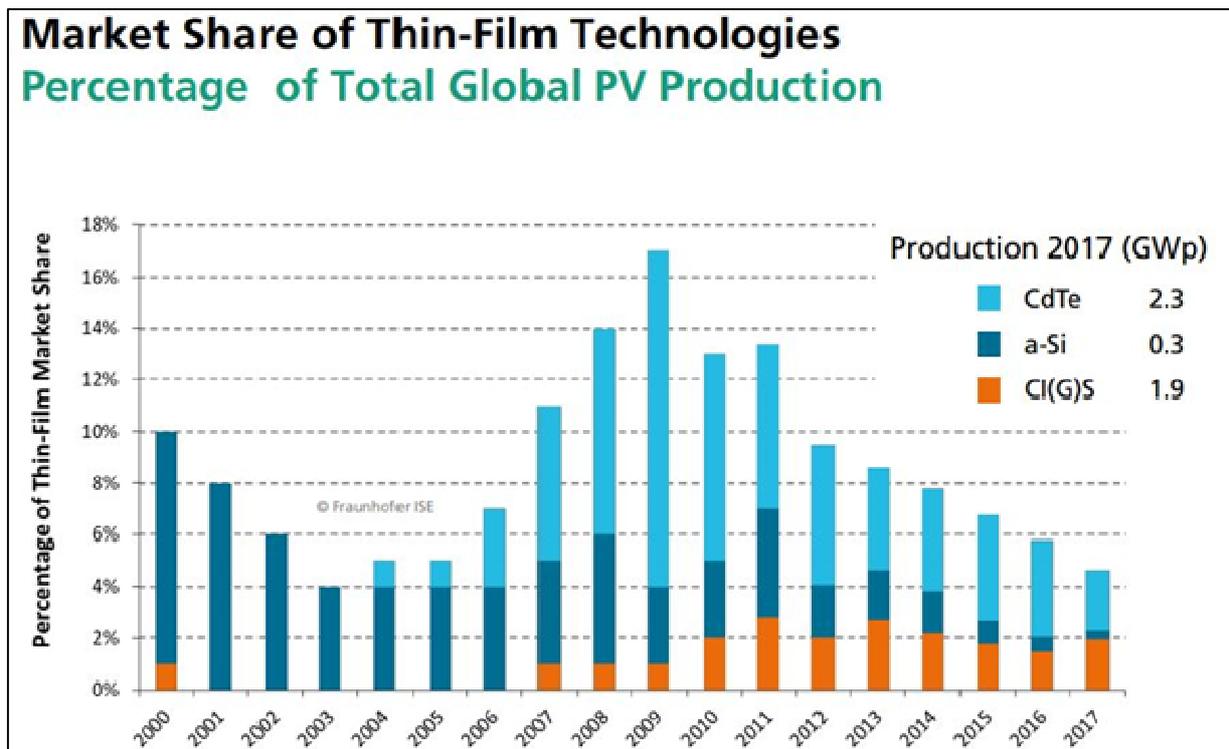
In an interesting turn of events (reminiscent of its recent actions in Scandium) the sometimes clueless mining giant, Rio Tinto, have suddenly discovered religion and will build a plant to recover Tellurium at the Kennecott copper mine in the Utah. This in turn will strengthen the supply chain for advanced thin-film solar panels outside of China.

Rio Tinto is investing US\$2.9mn in the 20 tpa plant, which will recover Tellurium as a by-product of

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copper refining at the Kennecott mine, near Salt Lake City. Production is expected to start in the fourth quarter of this year.

The largest Tellurium consumer in North America is Arizona-based First Solar (NASDAQ:FSLR), which manufactures cadmium telluride thin-film solar power modules. Argus Metals reported First Solar as very welcoming to the development, as it effectively decouples them from Chinese supply dependency. It also revealed that it was in talks with Rio Tinto. Now, as with Scandium, we are starting to see symbiotic relationships springing up between major miners and major consumers.



Source: Fraunhofer ISE

Tellurium is yet another of those obscure metals that the average member of the public cannot associate with any application of relevance to them when in fact it is pivotal to solar panels and thus the efforts to decarbonise global economies. The latest USGS report on the metal states that, in 2019, no Tellurium was produced in the US. It lists the import sources (2015–18) as being: Canada with 64%, China at 25%; Germany at 7% and others providing 4%. Despite Canada being the major supplier to the US, it is the Chinese who call the shots on pricing at the global level because of their domination of all the rest of global supply, producing 290 tonnes out of global production of 470 tonnes in 2019.

China was the leading producer of refined Tellurium, recovering Tellurium from copper anode slimes and from residues generated during Lead, Nickel, precious metals, and Zinc smelting processes.

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Once again the old issue of the “FANYA Debacle” rears its ugly head with the auction of 170 tons of Tellurium from the defunct Fanya Metal Exchange (FME) having been snapped up by a Chinese player (Vital Metals) giving them a stock to lord it over global markets and the pricing of the product.

Rio Tinto earlier this year announced the start of construction of a Scandium-oxide plant at its Sorel Tracy metallurgical plant near Montreal in Quebec, which should make it the largest single Scandium producer in the world.

These latest projects are a continuation of Rio Tinto's push to recover critical minerals from existing production sources. The important takeaways here are two. The first is the breaking of Chinese domination and the second is that a major miner is undertaking the task rather than leaving it to unresourced juniors that can spend years rattling their begging bowls on Bay Street before they find an investor for their projects.

### **Portfolio Changes**

There were no changes in the Model Resources Portfolio during the month of April.

### **Metals X – Rising Despite Its Best Endeavours**

Anyone could be excused for thinking that Metals X in recent years has actually been trying to sink its stock price, not get it up. Despite best endeavours by management it has seen its price rising largely as the result of it being the best exposure to Tin on the ASX and one of only three tin producers in global markets (the others being our favoured Alghamin – TSX.v:AFM and the LSE listed AfriTin).

The main transaction the company has done in recent times was the sale of its disastrous excursion into copper several years ago when it took over Adiya Birla in a dumb, contested (and overpriced) transaction. Over time this has cut hundreds of millions off the potential market cap. In late March it confirmed that it had completed the sale of a portfolio of its Western Australian copper assets to Cyprium (ASX:CYM) including:

- The Nifty Copper mine (currently in care & maintenance)
- The Maroochydore Copper project
- The Paterson Exploration project (which includes a farm-in agreement with IGO Limited)

In exchange the company was paid AUD\$60 million worth of consideration, comprised of:

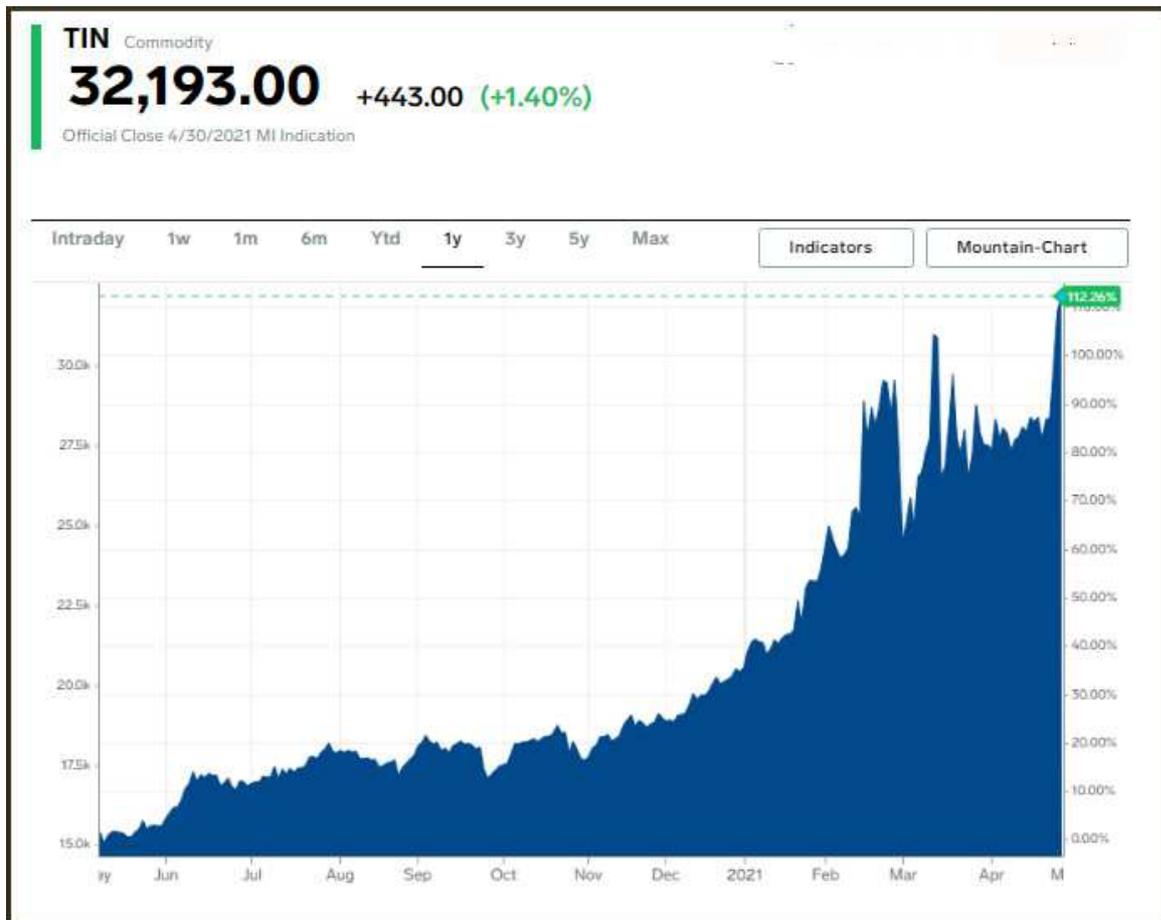
- a cash payment of AUD\$24 million
- Four convertible notes for an aggregate value of AUD\$36 million
- 40.6 million options issued free attaching to the convertible notes, comprising:

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- 20.3 million options exercisable at AUD\$0.3141 per option before 30 March 2022
- 20.3 million options exercisable at AUD\$0.3551 per option before 30 March 2023

With CYM trading at 28.5 cts at the moment these sets of options are not too far from being in the money.

The stellar rise of the Tin price has lifted the boat of Metal X's long-stranded share price over recent months with Tin going almost vertical in recent weeks.



So besides its Tin interests at Renison in Tasmania, the company also has its very interesting Wingellina Nickel assets in Western Australia.

Alas for us, having Yunnan Tin as the partner in the Renison JV makes it a lot less interesting than it otherwise might be. Any management worth its salt (that ostensibly believed in Tin) would have had a secondary play in Tin or certainly would have been using its cred (and we use the word advisedly) to leverage the Tin opportunity. What has Metals X done....? Zip.... Oops...

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Below can be seen part of the Renison tin mining complex in Tasmania



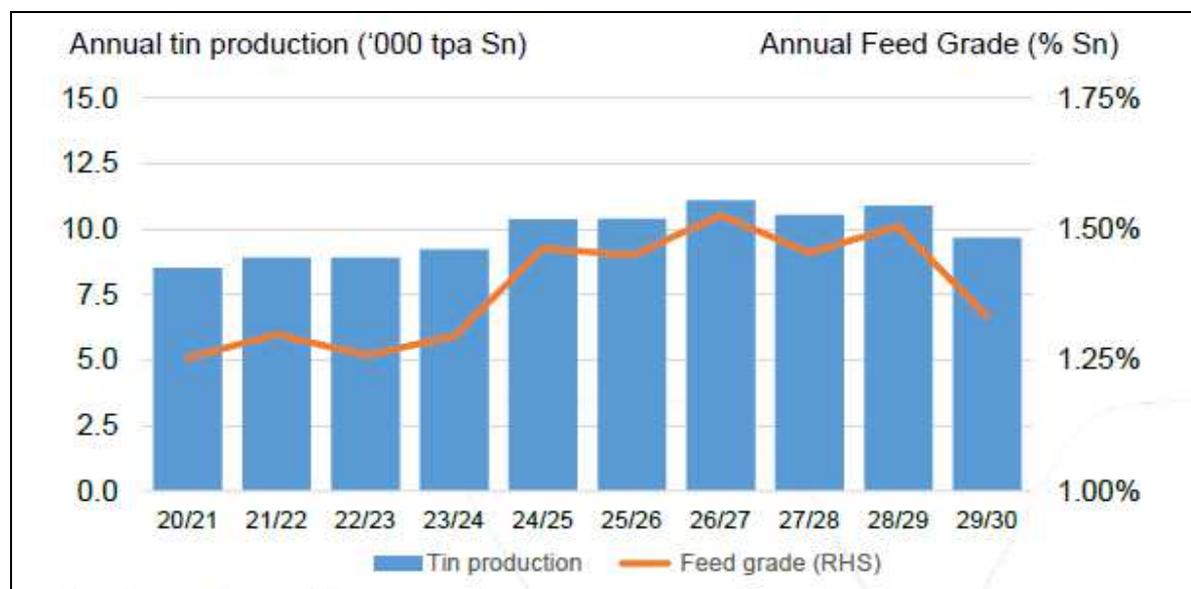
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What next for the Tin operations then? These consist of its 50% ownership of the Bluestone Mines Tasmania Joint Venture (with Yunnan). The key assets of this Joint Venture are the venerable Renison Tin Mine, a 700,000 tonne per annum tin concentrator plant and the Renison Expansion Project (Rentals). We can understand why Metals X, staring mortality in the face for so long due to its past fecklessness should have lost track of the ball, but why it is not now trying to challenge Alphamin's title as the leading listed non-Chinese Tin producer eludes us.

Recently revealed soundbites include:

- + a confirmed 10-year Life-of-Mine
- + Targeting Area 5 - Ore Reserve: 3.3mn tonnes @ 1.87% Sn for 61,900 tonnes Sn
- + Area 5 investment of \$50 – 55 million being funded through positive operating cash flow
- + Production ramp up from ~ 8,500 tpa tin to over 10,000 tpa tin from FY25
- + AISC decreasing to ~A\$17,000/t tin

Below can be seen the company's projections of potential volumes.



These annual production numbers come in slightly under those of Alphamin but contain a longer life of mine. These volume numbers plus the projected low AISC augur strong margins, but..... management have long tended to seize defeat out of the jaws of victory so only time will tell.

Metal's X's market cap is around 40% of that of Alphamin, despite the latter's DRC discount.

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As the chart that follows shows the Tin “renaissance” has lifted all boats, including that of Metals X.

We were about to axe this position last year but held fire. Just as well that we did but really the management need to show more gumption of its just ends up being a Tin price proxy for Australian retail investors who cannot access Alphamin in their market.



### Trouble in Paradise for Rainbow

It was only recently when we added Rainbow Rare Earths (LSE:RBW) to our Model Resources Portfolio largely because we liked its new Phalaborwa tailings reprocessing project (to extract Rare Earths) in South Africa. The Burundi operations had never produced much excitement for us.

Its Gakara Project in Burundi had the distinction of being the only African producer of Rare Earths. Nowadays its mine produces one of the highest-grade concentrates in the world (typically 54% TREO) and is classified as “ongoing trial mining operations”. The Gakara basket is weighted heavily towards NdPr, which management claims, account for over 80% of the value of the Gakara concentrate.

The company experienced a bombshell mid-month when it was forced to advise the market that received notification from the government of Burundi of a temporary suspension on the export of concentrate produced from trial mining and processing operations at its Gakara Project. No more colour was given and one can only speculate as to what this means. Was it the Chinese “hidden hand” trying to make a move on the project? But why as the Chinese get the concentrate from the project anyway! Was it the government getting spooked that the management (like us) were favouring the South African project over the legacy mine? This might be a way of focusing management back onto advancing this job making and export dollar earning enterprise at a time when Rainbow still does not have Phalaborwa

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operating. We can only guess.

We suspect the problem will be resolved. Rainbow's management have hopefully got the message that they need to keep Burundi on side while South Africa advances. The market does not like to hear of assets being lost or shut down by government fiat even if they aren't earners for a company.

### **Parting Shot**

As the pandemic starts to lift (at least in the UK and US) the corporates are getting *wanderlust* and the conference/event promoters are getting nervous. Well they might. Quite a number of conference organisers imagine they have found the pot of gold at the end of the rainbow without the intervention of a leprechaun. They get to hold online "events", charge the corporates, have minimal overheads and imagine/claim that there is a vast trapped audience of investors sitting at home so bored that they would prefer to flick through yet another powerpoint rather than turn on "Days of Our Lives". (Though they are probably doing both concurrently).

Maybe the penny is dropping with some of the corporates that the online viewership numbers are not really what they are made out to be. We issued a *fatwa* against online meetings in the Autumn of 2020 and yet we are still shown as attendees at various conferences and receive invites to meetings with executives, which we do not answer. If we did not sign up for a conference (and in some cases specifically stated we would NOT be attending) then they can send invites as much as they want. We are not there.

In the interest of politeness we used to log on and then decline the requests. Now we do not waste our time doing this. The rudeness is not ours if it is the promoters touting us (and others) as attendees within our consent or participation. Corporates should start to realise they are being conned. It's like rent-a-crowd without the crowd even being rented.

One organizer we told that we would only be attending physical meetings and they should not call us until they had their October/November schedules of events ready. They said "oh, we aren't doing those this year" to which we responded "see you next year". We hear that LME Week in October might be happening (even if getting in will be like visiting a speakeasy), and certainly hope some of the lesser events in November are back on the agenda.

Those conference organisers "erring on the side of caution" are just clinging to the unreal margins they have made from spoon-feeding baby mush to investors through torturous Zoom calls with droning tedious repetition.

We told the rep of one commodity pricing service that if they decide to hold their annual summer party they had better book the Wembley Stadium as EVERYONE will want to be there. The mantra will be "Party like its 2019!"



MODEL RESOURCES PORTFOLIO @ END APRIL						
Security	Currency	Price	Change		12-mth Target	
			last 12 mths	last mth		
<b>LONG EQUITIES</b>						
<b>Diversified Large/Mid-Cap</b>	Teck Resources (TECK.B)	CAD	26.01	112%	7%	\$25.00
	Hochschild (HOC.L)	GBP	1.872	26%	-6%	£3.40
<b>Uranium</b>	Uranium Participation Corp (U.to)	CAD	5.37	10%	0%	\$6.00
	GoviEx (GXU.v)	CAD	0.3	88%	11%	\$0.30
<b>Zinc/Lead Plays</b>	WisdomTree Zinc ETF (Zinc.L)	USD	8.94	46%	4%	\$9.00
	Myanmar Metals (MYL.ax)	AUD	0.07	75%	0%	\$0.15
	Telson Mining (TSN.V)	CAD	0.59	638%	31%	\$0.50
<b>Silver Producer</b>	Excellon Resources (EXN.to)	CAD	3.3	523%	-10%	\$5.50
<b>Silver Explorer</b>	Southern Silver Exploration (SSV.v)	CAD	1.3	829%	-14%	\$1.80
<b>Silver ETF</b>	IShares Silver ETF (SLV)	USD	24.01	72%	5%	\$26.00
<b>Gold Producer</b>	Soma Gold (SOMA.v)	CAD	0.35	1067%	9%	\$1.20
<b>Coking Coal</b>	Colonial Coal (CAD.v)	CAD	0.68	162%	-3%	\$1.10
<b>Project Generator</b>	Altus Strategies (ALS.L)	GBP	0.63	-98%	-11%	£4.00
<b>Copper Explorers</b>	Panoro Minerals (PML.v)	CAD	0.17	89%	-19%	\$0.30
	Phoenix Copper (PXC)	GBP	0.38	115%	14%	£0.65
<b>Tungsten Producer</b>	Almonty Industries (AII.v)	CAD	1.08	108%	7%	\$1.25
<b>Vanadium Developer</b>	Vanadium Resources (VR8.ax)	AUD	0.05	150%	-29%	\$0.05
<b>Lithium</b>	Neometals (NMT.ax)	AUD	0.53	231%	39%	\$0.45
	Lithium Power Intl (LPI.ax)	AUD	0.27	93%	4%	\$0.30
<b>Scandium Developer</b>	Scandium International (SCY.to)	CAD	0.18	125%	-10%	\$0.16
<b>Gold Explorer</b>	Cabral Gold (CBR.v)	CAD	0.46	229%	-19%	\$0.60
	BTU Metals (BTU.v)	CAD	0.12	-50%	-14%	\$0.42
	Gunpoint Exploration (GUN.v)	CAD	0.67	37%	3%	\$0.75
	Bold Ventures (BOL.v)	CAD	0.08	60%	-11%	\$0.18
<b>Fertilizers</b>	Verde Agritech (NPK.to)	CAD	1.3	202%	-14%	\$2.00
<b>Cesium et al.</b>	Essential Metals (ESS.ax)	AUD	0.1	900%	-9%	\$0.30
<b>Rare Earths</b>	Rainbow Rare Earths (RBW.L)	GBP	0.17	450%	-1%	£0.30
	Neo Performance Materials (NEO.to)	CAD	19.98	169%	-2%	\$24.00
<b>Tin Miner</b>	Alphamin (AFM.v)	CAD	0.63	385%	7%	\$0.80
	Metals X (MLX.ax)	AUD	0.24	200%	14%	\$0.30
<b>Oil &amp; Gas</b>	Shell B (RDSB.L)	GBP	13.039	3%	-3%	£14.90
<b>Royalties</b>	Elemental Royalties (ELE.v)	CAD	1.44	n/a	-1%	\$2.30
<b>SHORT EQUITIES</b>						
<b>Shorts</b>	NioCorp (NIO.to)	CAD	1.34	106%	2%	\$0.40
	Galane Gold (TSX-v:GG)	CAD	0.24	243%	-14%	\$0.15
	Texas Mineral Resources (TMRC)	USD	2.19	232%	-44%	\$0.30

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