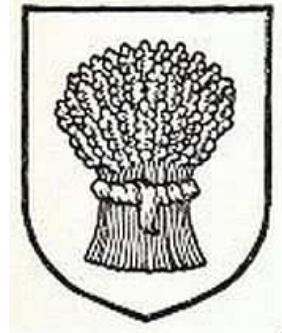


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HALLGARTEN & COMPANY

Portfolio Strategy

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Model Mining Portfolio: Gold Losing its Brexit Gleam

Performance Review – August 2016

Model Mining Portfolio

Gold Losing its Brexit Gleam

- + Zinc is performing stellarly and is looking set to challenge the \$1.10 per lb testing zone
- + Financing is looking very healthy indeed. In H1 2016, CAD\$5.3bn was raised by TSX and TSXV listed mining companies through 738 financings. This represents 56% of the number of global mining financings globally
- + Investors should be looking towards drillers, and other service providers, as being second-line beneficiaries of the mining turnaround
- + A large supply deficit has developed in nickel
- + Cobalt stocks have been the top performing mining sub-space on the ASX
- + Manganese prices are firming up with South32 pushing the envelope in this metal
- × Gold looks set to challenge the \$1,300 per oz mark to the downside as Brexit fears have dissipated
- × Silver has had its price scalped which was somewhat inevitable once it crossed the \$20 mark
- × Copper is failing to gain as much traction as the other base metals

The Best Laid Plans of Mice & Men..

As enthusiasts for the whole concept of Brexit, we were rather surprised when the market reacted as it did to the initial vote and drove gold up more than \$100 in the space of a few days and sent silver soaring over \$20. What was evident from all this is that most market players did not understand the significance and certainly did not understand that it was not the end of life as we know it, though over the longer term it may very well mean the demise of the EU (and with it the odious Euro construct). Even those two developments would not be a reason to dash for the shelter of gold.

As things have evolved the economic indicators in the UK have trended to the better since the vote and the “hang-‘em high” school of thought led by Jean-Claude Juncker have been told to pull their heads in by cooler heads in the EU elites. The concurrence of these two “better” developments has taken the wind out of the sails of the gold and silver prices. Silver has come off around 10% after a stellar run (that was more China-driven than Brexit-inspired) and gold has been lolling about without direction. Directionless is probably the worst thing that can happen to gold because when it becomes perceived to be boring and lacking specific stimuli is when it starts to give up a few dollars every day (with the occasional uptick interspersed) but before you know it is back under \$1,300.

If higher gold is predicated upon some sort of Apocalypse Now in the British economy then dream on, if it is supposed to be a meltdown in the Eurozone then it’s a case of Apocalypse Delayed. Neither of these are therefore good scenarios at the current moment for a sustained gold price in the current territory.

Many market caps in the producer and junior gold space have been marked higher based on these theses and financing is pouring in to even the far-fetched and long-term gold “developers” that wandered around the marketplace for the last four years like lepers. Gold stocks were too low and now they may be too high. Seatbelts should be fastened.

The Portfolio Move

The Model Mining Portfolio ended the month at \$3.957mn, down from \$4.18mn. Cash holdings shrunk by nearly \$300,000 to \$1.028mn due to our preponderance of Long-slanted trades during August.

Portfolio Changes

There a swathe of portfolio changes in August with the goal being to reduce the excessive cash balance without buying into a toppy market. The transactions we undertook were:

- Added a Long position in Southern Silver Exploration. Bought 250,000 shares in SSV.v at CAD 48.5 cts per share on August 25th
- Added a Long position in Talga Resources. Bought 500,000 shares in TLG.ax at AUD 0.26.5 per share on August 25th
- Added to Long position in Metals X. Took up allocation of 10,135 shares in MLX.ax at AUD\$1.48 per share on August 23rd
- Added a Long position in Scandium International. Bought 600,000 shares in SCY.to at CAD 14 cts per share on August 23rd
- Added to Long position in Almonty Industries. Bought 200,000 shares in All.v at CAD 32 cts per share on August 23rd
- Closed Long position in Thompson Creek. Sold 43,000 shares at CAD\$0.75 per share on August 4th.

The takeover of Thompson Creek by Centerra Gold might be a good way of distancing the acquirer from the travails of Central Asia and Turkey but as TCM shareholders, we were less than excited in ending up linked to these troublesome countries. The surge in TCM’s price from its rock bottom levels made the selling opportunity too difficult to resist.

When Almonty announced its original deal with the ASX-listed ACT to acquire the ferro-tungsten plant in Vietnam we were tempted to take a position in the Australian stock that Almonty would have ended up controlling. Dawdling saved us some effort as Almonty changed tack and made a bid for all of ACT. Almonty is one of the most cohesive and ambitious consolidation stories out there and will eventually be the model for bulking up in these classically undercapitalized and “one-mine” operators. We resolved to bulk up ourselves the existing Almonty position and did so during the month.

Scandium International is the underappreciated leading player in the Scandium space. We wanted a position in this metal and this is the best there is with the most advanced plans and a relatively bite-sized capex. Therefore we added a position to the portfolio during the month.

Metals X announced a complicated demerger deal with associated financing and the offer of shares to those not in the institutional placement. At the time the stock price was \$1.72 and the take-up price was \$1.48 so a case of money for nothing. So we took up our theoretical entitlement in full.

A recent examination by us of Talga Resources prompted us to open a position in this upcoming graphite producer in Sweden.

Likewise our recent research report on Southern Silver Exploration prompted us to add a Long position in this up-and-coming Zinc-silver developer with a Mexico focus.

Southern Silver – a Budding Zinc Miner in Disguise

For those companies that persisted through the mining sector's Ice Age that stretched for nearly half a decade there has finally come a reward. For those that persisted with Silver and Zinc, when they were particularly unattractive and unloved, the reward has come in spades.

It was not that many years ago that some estimates put it that there were around 300 Canadian listed miners working in Mexico on everything from greenfields to large scale mines. In the interim it is not as if mining changed much in Mexico but certainly the dynamic of funding markets did and Toronto/Vancouver in particular became tough going for domestic projects let alone ones in more distant locations.

Southern Silver is one of those companies that persevered. Its main prospect for all of this decade has been the Cerro La Minitas project. For a while it partnered with Freeport McMoran, but that was clearly an unsuitable alliance as copper/gold is more Freeport's theme in recent times. Now it has a more suitable and cutting edge partner in the form of Electrum, one of the few private equity groups to have shown success and competence in the resources space. Under this new arrangement it has reactivated its exploration program and recently announced a resource estimate which surprised the market by showing, in addition to the well-known silver nature of the deposit that there is also enormous potential for Zinc exploitation at the Cerro las Minitas deposits.

With the market largely denuded of Zinc juniors through a brutal process of attrition during the long dark winter for this metal the field is now clear for upcoming miners with Zinc assets to come forward and occupy the space. To a large extent this is true also of Silver where very few names have appeared in recent years and many others have been subject to takeovers and roll-ups.

This raises the possibility that up and coming stories will present a temptation to larger players that have no (or minimal) pipeline of new production. Even at multiples of its current price, Southern Silver presents itself as a plug-n-play asset that would solve the immediate problems of quite a number of

mid-tier players that have underinvested during the down times and now have to explain to investors why they have nothing coming on-stream from 2018 onwards.

The names one can conjure with as potential buyers include any number of existing players in the Mexican silver space. Beyond this, one might also speculate on the possibilities that companies like Lundin, which has severely run down its Zinc mining assets, could be a party to move on the company (or the asset).

Before one dismisses a company with “silver” in its name as being of interest to base metals majors one should run the In Situ valuation of the current Inferred and Indicated resource at current prices. As mentioned earlier many believe that the Zinc price will hit higher levels in coming years but even using current levels, the Zinc/Lead component of Cerro Las Minitas has an “in the ground” value of over one billion dollars with the silver “chaser” worth more than half a billion dollars more.

In Situ Valuation - Cerro Las Minitas		
Silver	\$18.60	\$527,607,600
Gold	\$1,303.00	\$54,204,800
Lead	\$0.85	\$362,525,000
Copper	\$2.09	\$76,285,000
Zinc	\$1.05	\$874,965,000
		<hr/>
		<u>\$1,895,587,400</u>

Investors should be cognizant (and satisfied) that Electrum are no newbies in this space and will drive a hard bargain if any offers do start to surface for Cerro Las Minitas.

The task now is to upgrade the resource through further infill drilling, while also adding resources in the new areas identified around the “hill”. The stage will then be set for production of a PEA that quantifies the size and method for what will need to be an underground mine at Cerro Las Minitas.

The question is at what point do the fins start to appear in the water? Electrum itself might be the party to initiate the takeout or it might succumb to a tempting offer for its portion of the project. If the resource keeps evolving as it is then Southern Silver’s project will become a “must-have” for a major or mid-tier miner that has not been working through the downtime to maintain its production pipeline.

We have a **Long** call on Southern Silver Exploration with a twelve-month target price of \$0.94.

Talga Resources – Value Added in Graphite

There is somewhat of a Nordic Renaissance going on in mining and this, in a way, is a reinforcement of the revival going on in Spain and Portugal. The far more northerly Norway, Finland and Sweden have become hot spots with their traditionally propitious geology being revisited in a swathe of metals, both base and specialty (and even precious) as a way of creating jobs and bolstering export income.

Much to our surprise Australian companies have featured prominently in pushing into these parts where the weather could not be more daunting for those used to Southern climes. Talga has joined the rush and becomes the second graphite player of note to target Sweden (the other being Flinders, which is also run by Australians despite its TSX-listing). Flinders was a member of the Model Mining Portfolio before we expelled it earlier this year over the merger with Tasman, the frustrated Scandinavian REE explorer.

The thing that first struck us with Talga's presentation was the use of the word "scalable" before all others. After "production", "scalable" is our second most favorite word at the current moment.

The Graphite Project(s)

Talga Resources has five 100% owned graphite projects comprising multiple deposits, all of which are located in Norrbotten County in the far north of Sweden.

The two most advanced projects, Nunasvaara and Raitajärvi, both contain JORC Indicated resources, and preliminary economic studies on these deposits have commenced. Nunasvaara, which forms part of the Vittangi Project, is a microcrystalline flake deposit, with what the company claims is the highest-grade JORC/NI 43-101 resource in the world (7.6mn tonnes @ 24.4% graphite). Raitajärvi, located some 150kms south-east of Vittangi is a coarse flake deposit, with 49% of contained flake classified large to jumbo size (4.3mn tonnes @ 7.1% graphite).

The whole area is laced with rail infrastructure due to the historic iron ore trade in the vicinity. As can be seen from the map on the preceding page Talga's graphite deposits are located adjacent to existing transport infrastructure including high quality sealed roads and open-access heavy haulage rail.

The Scoping Study

Talga came out with a Scoping Study for its main target, the Vittangi deposit, in October of 2014. The main findings were:



- Targeting dual production of ~46,000 tpa graphite and ~1,000 tpa graphene over approximately 20 years
- Low Capex of around AUD\$29mn and capex payback 1.4 years
- Around AUD\$84/t feed costs for 2% graphene recovery and ~77% total graphite recovery
- Indicative pre-tax NPV in excess of AUD\$490mn based only on current JORC Indicated portion of resource - from surface
- Project was deemed viable on graphite production alone, with graphene a by-product icing on the cake
- The company hopes that economic metrics will become even more robust as graphite and graphene recovery yields increase with future optimisation work
- Permitting underway for pilot plant production
- Metallurgical work undertaken on fresh rock – samples not subject to naturally elevated graphite purity by virtue of oxidation
- Conservative Study numbers
 - graphene price severely discounted to then current minimum pricing and low-end yields assumed

The metrics of the operation are shown at the right.

Trial Mining

With Talga we have yet another case of a stealth producer creeping up, like the tortoise on the hare, as its two successive campaigns of trial mining are turning into a test of the

Plant throughput (tpa)	250,000
Diluted Feed Grade	23.6%
Graphite production (tpa)	~46,000
Graphene production (tpa)	~1,000
Life of Mine Strip Ratio	4:01
Graphite price assumption (USD\$/t)	\$480
Graphene price assumption (USD\$/t)	\$55,000
Capital cost (AUD\$m)	\$29.30
Mine Life (years)	19.7
Discount Rate	12%
Pre Tax NPV (AUD\$m)	\$490mn
Payback from construction start	1.4 years

viability of, firstly, its mining plans and, secondly, its value-added products, primarily for now in the Industrial Coatings space.

In July the company commenced its second trial graphite ore mining campaign at the Vittangi project with the plan being to extract ~2,500 tonnes as required to feed Talga’s upscaled pilot test work facility at Talga Advanced Materials GmbH in Germany and continue developing the proprietary graphene production process.

The 2016 trial mine is extending and deepening last year’s open pit site and similarly extracting whole multi-tonne blocks of graphite ore from within the total 2012 JORC resource of 9.8 million tonnes @ 25.3% graphite. The mine looked like this after the first season’s work.



For this season Talga adopted improved mining processes compared to the 2015 campaign with the main differences being:

- Larger, tailor-made and automated ore block cutting equipment for improved efficiencies and lower unit costs
- Ore blocks stockpiled in Sweden and delivered to Germany by truck as required

Slicing large blocks of graphite for dispatch reminds one more of stone quarrying than the traditional mining techniques of blasting and fracturing the material for processing into a concentrate. The advantage comes here from the grade of the graphite being so high.

The Value-Added

The graphite space has seen a bewildering amount of applications floated past investors in recent years. Most investor's attention spans did not extend beyond the flake size "debate" and then narcolepsy set in. The "big" theme is the usage in Lithium Ion batteries but it is good to see that not all graphite players are not putting all their playing chips on this one space on the roulette table.

In Talga's case it has gone in the first instance for coating technologies and the users thereof as its initial end-users. In recent weeks the company announced that it had produced and delivered its first value-added graphene based product. The product, a metal pre-treatment coating, was delivered to a leading global coatings company following the filing of a patent application over the coating's composition and production method.

In Talga's opinion its coating technology has the potential in many industries, but is particularly well suited to the automotive, electronics and aerospace markets and anywhere the use of toxic chemicals, such as hexavalent chromium (which Talga's product does not contain), are banned. The product offers enhanced corrosion protection by harnessing graphene's extreme electrical conductivity, impermeability and chemical structure to form a high performance coating. It also claims that its coating can be applied with industrial scale roll to roll machinery, reducing post-formation spray coating steps and improving manufacturing efficiency across products including automobile bodies to battery casings.

Being based in Sweden, Talga's mine/processing facilities are within easy distance of some of the most important industrial users in the world. While coatings may not sound as sexy as Tesla they are considerably more "tried and true" with the total global coatings pre-treatment sector is worth about US\$15bn per annum and falls within the US\$120bn paint and coatings market, which has reported compound annual growth of over 5%.

The coating product is the first of a range of targeted value-added applications that Talga is developing and looking to commercialise. The global coatings company assessing the Coating will undertake accelerated application and performance trials over coming months.

At the same time, further tests on Talga's coating technology are underway at research institutions in India and the UK, where scientific peer review analysis and publication of the results will be conducted.

Talga has aspirations to create a range of graphite products. The siting of the plant for these endeavours in Germany is a very interesting move by the company and heralds that it sees end-uses away from the almost "plain vanilla" Lithium Ion battery space as the way to go.

The three words that best sum up Vittangi are cheap, cheap, cheap and they are music to investors' ears in these days where all other things being in a projects favour the Capex then spoils the show. Like many others in the graphite space, Talga needs to bag an offtaker/sponsor to get a leg up on the competition. At least in its case, the low capex is a draw while the positioning in Europe is also a plus. We have added this Talga position with a 12-month target price of AUD 42 cts.

Parting Arrow

In August of 1914 the British Foreign Secretary Sir Edward Grey made the prophetic claim that "The lights are going out all over Europe and we may not seem them lit again in our lifetimes". Well may we transpose that comment to 2012 and replace Europe with "mining markets" for despite the fact that some glimmer of light has returned in 2016, the wattage is definitely much lower than pertained in the boom years and the mining markets look unlikely to glow in the same way they once did.

We frequently bemoan the fact that things have not changed much (in management thinking and style and in regulator's attitude to egregious company behaviour) there have been some changes in the interim and not for the better. The investor community reappears into the sunlight to find a landscape without many marker posts to quite them. The attrition of the bad years have taken a severe toll in

specialist broking firms in the mining space (most noticeably in Canada and London), the number of websites providing information to investors has declined steeply (in Canada, the US and South Africa), independent research providers are fewer or have refocused onto other sectors and large investment banks have shrunk coverage to a few mind-numbing majors and decimated their analyst populations. Added to that we have swathe of mind-numbing rules in Australia to protect investors from knowing what is going on and Canada's anti-spam legislation which has been used by one company we have a Short call on to try and stop the public receiving information.

They say that "truth is the first casualty in war" and to continue our original analogy, it is analysis and informed comment that has died the death over the long grim four years since the lights went out in the mining space.

Mining Model Portfolio as at: 31-Aug-16

Security	Initiated	Currency	Avg. Price	Current	Portfolio Weighting	Increase in Value	Target
Long Equities							
Various Large /Mid- (Capstone Mining (CS.to)	5/29/2009	CAD	2.32	0.68	0.90%	-70.70%	\$2.00
NevSun (NSU)	3/23/2012	CAD	3.45	4.13	5.80%	19.70%	\$5.00
Sherritt International (S.to)	7/11/2013	CAD	1.78	0.8	3.40%	-55.10%	\$2.50
Palladium ETF (PALL)	10/16/2014	USD	72.08	64.72	4.80%	-10.20%	\$74.00
Metals X (MLX.ax)	29/5/2014	AUD	0.98	1.51	5.60%	54.30%	\$1.80
Uranium							
Uranium Participation Corp (U.to)	10/20/2010	CAD	7.01	3.92	2.80%	-44.10%	\$6.00
Western Uranium (WUC.cx)	7/5/2016	CAD	2.25	1.75	2.90%	-22.20%	\$4.80
GoviEx (GXU.cx)	6/29/2015	CAD	0.08	0.17	5.70%	106.90%	\$0.50
Zinc/Lead Plays							
Zinc ETF (Zinc.L)	1/15/2010	USD	7.04	6.78	2.50%	-3.70%	£9.00
Canadian Zinc (CZN.to)	12/9/2011	CAD	0.82	0.3	1.00%	-63.40%	\$0.70
Nyrstar (NYR:BR)	9/28/2009	Euros	65.1	6.47	1.00%	-90.10%	€ 15.00
Southern Silver Exploration (SSV.v)	8/25/2016	CAD	0.47	0.485	3.40%	3.20%	\$0.94
Gold Producers							
NewGold (NGD.to)	5/31/2013	CAD	7.05	6.3	5.30%	-10.60%	\$8.00
Patagonia Gold (PGD.L)	10/2/2013	GBP	3.6	1.6	1.50%	-55.60%	£4.00
Eldorado Gold (EGO)	6/21/2012	USD	9.12	4.2	4.60%	-53.90%	\$7.00
Teranga Gold (TGZ.to)	6/21/2012	CAD	1.57	1.13	3.80%	-28.10%	\$1.50
Copper Producer							
Coro Mining (COP.to)	2/23/2015	CAD	0.03	0.14	3.90%	366.70%	\$0.30
Trading House							
Glencore (GLEN.L)	1/5/2016	GBP	0.88	1.74	8.40%	96.80%	£2.20
Processor							
IBC Advanced Alloys (IB.v)	4/29/2016	CAD	0.3	0.8	2.20%	166.70%	\$1.40
Gold Explorers							
Everton Resources (EVR.v)	4/17/2012	CAD	0.08	0.11	3.10%	46.70%	\$0.10
Tungsten Producer							
Almonty Industries (AII.v)	7/31/2015	CAD	0.36	0.35	4.90%	-3.40%	\$1.00
Copper Explorer							
Asiamet Resources (ARS.v)	4/28/2016	CAD	0.05	0.04	1.70%	-20.00%	\$0.24
Nickel Explorer							
Sama Resources (SME.V)	23/2/2015	CAD	0.16	0.12	2.70%	-25.00%	\$0.30
Lithium							
Neometals (NMT.ax)	7/31/2014	AUD	0.04	0.35	4.80%	845.90%	\$0.28
Galaxy Mining (GXY.ax)	6/28/2016	AUD	0.35	0.4	2.40%	15.70%	\$0.70
Scandium Explorer							
Scandium International (SCY.to)	8/23/2016	CAD	0.14	0.14	2.40%	0.00%	\$1.00
Graphite Producer							
Elcora Resources (ERA.v)	29/5/2014	CAD	0.2	0.32	4.50%	60.00%	\$0.64
Graphite Developer							
Talga Resources (TLG.ax)	8/25/2016	AUD	0.27	0.25	3.50%	-5.70%	\$0.42
REE Explorer							
Northern Minerals (NTU.ax)	6/9/2011	AUD	0.73	0.08	0.30%	-89.00%	\$0.28
NET CASH					1,028,891		
Short Equities							
Shorts					Weighting		
Bacanora (BCN.v)	12/4/2015	CAD	1.53	1.5	32.70%	2.00%	\$0.80
Orocobre (ORE.ax)	6/28/2016	AUD	4.61	3.84	27.40%	16.70%	\$3.20
Galane Gold (GG.v)	4/28/2016	CAD	0.06	0.1	39.90%	-66.70%	\$0.03

Current Cash Position	1,028,891
Current Liability on Shorts Not Covered	210,416
Net Cash	1,239,307
Current Value of Bonds	0
Current Value of Long Equities	2,717,755
TOTAL VALUE OF PORTFOLIO	3,957,062

Important disclosures

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