

HALLGARTEN & COMPANY

Portfolio Strategy

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Model Mining Portfolio: Cautious Signs of Hope

Performance Review – September 2019

Model Mining Portfolio

Cautious Signs of Hope

- + Strong up move in Platinum price (coming on top of the massive appreciation of Palladium over the last two years) has electrified the PGM space
- + Nickel price has stabilised at a level that is its highest in five years
- + Cobalt back to an upward trajectory... in a restrained way
- + Hochschild's takeover of Biolantánidos, the upcoming Heavy Rare Earth developer in Chile is a strong endorsement of the outlook for this group of elements
- ✗ Gold and silver have gone into a quiescent phase
- ✗ Base metals (excepting Nickel) continue in the doldrums

Rise of the Heavies

When we published our Erbium Review in the dying days of September we scarcely thought it would be a "bodice-ripper". However, our thesis that Erbium was the "sleeper" Rare Earths that would awaken with the 5G revolution and create supply problems for those trying to wean the West off Chinese Rare Earths seemed to resonate. The problem is that China has as much of an "Erbium problem" as the West and this has prompted the country to become a net importer of Heavy Rare Earths such as Dysprosium and Erbium. This is the result of the country having squandered its resources of Ionic Adsorption Clays last decade in a wave of decadent illegal mining and aggressive loss-leading on exports of the Heavies.

Our note may have only registered with the cognoscenti if it had not been propitiously followed by the earthshaking announcement of **Hochschild** (HOC.L), a precious metals miner, acquiring the whole of Biolantánidos, the advanced development stage Ionic Clay miner in Chile for US\$56mn. Here we had an interloper entering a sub-space widely regarded as blighted and snapping up one of the few assets capable of being added to the thin ranks of HREE producers. When we say thin, we mean pretty much our favoured REE play, **Northern Minerals** (NTU.ax) which is the only non-Chinese producer of the likes of Dysprosium and Erbium.

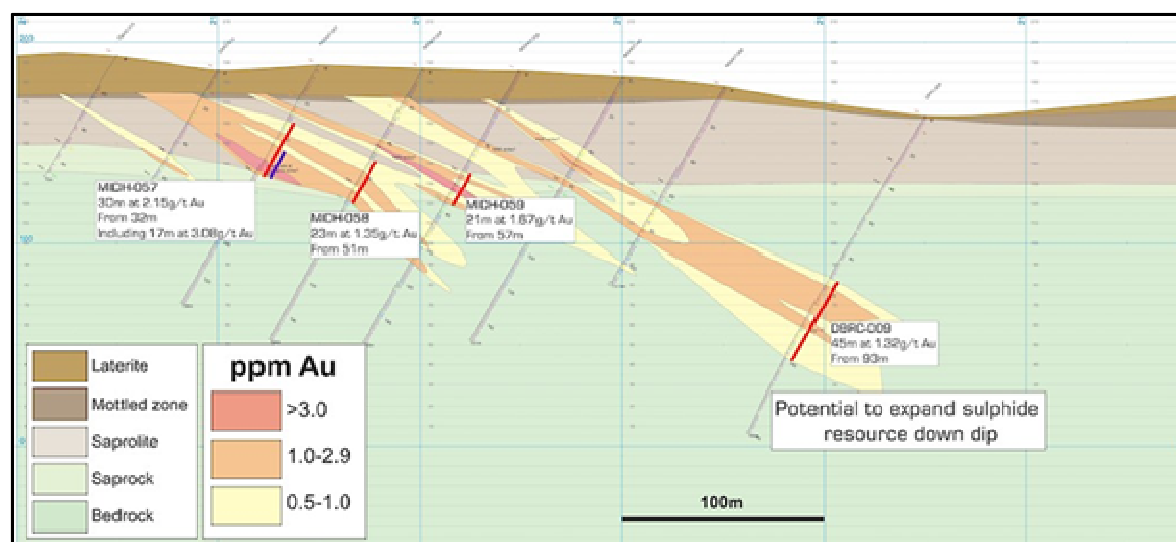
While before we mused that Chinese "might" lose their dominance of the Heavy Rare Earth market by 2025, this latest development in Chile and the evolution of Northern Minerals makes the "might" into a "will". This then is a tipping point for Chinese dominance. The Chinese can scarcely claim to control the REE space, when they are referring to only some of its categories. The trade war is clearly having some interesting side effects in the critical metals spaces and this is for the better in the West and particularly the US.

Ultimately some of the apocalyptic pronouncements of REE shortages made in the 2009-11 boom are going to come true but not in the Lanthanides that were most talked of back then. Europium anyone?

Altus Strategies – Mali

While Altus has four projects in Western Mali, it is the Diba project that (potentially) gets the pulse racing. The market does not “get it” at the moment but some machinations by larger neighbours have the potential to put Diba in play. The bet here is not just on closeology with majors but on the geopolitics between them.

The Diba prospect is located on the 83km² Korali Sud licence in the Kayes region of western Mali, approximately 450km northwest of the capital Bamako. The deposit is comprised of stacked lenses which dip approximately 35-40 degrees ESE within the oxide zone.

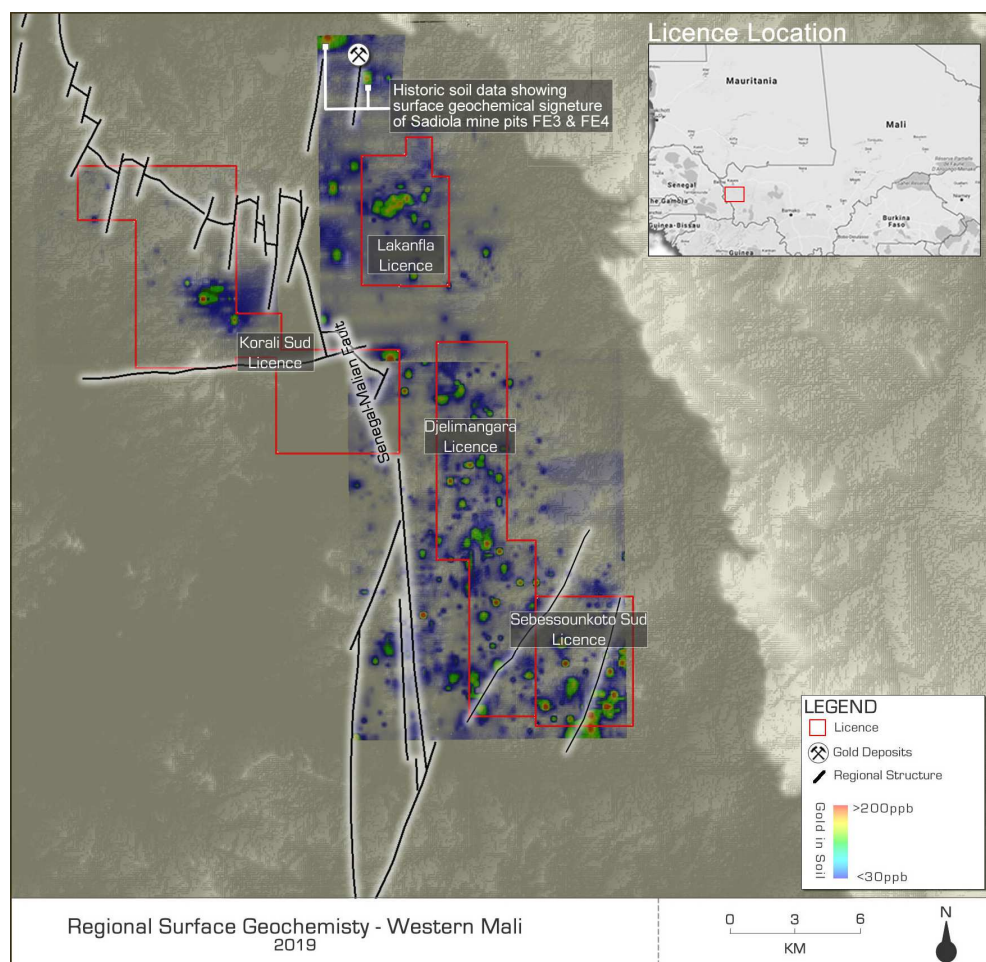


The project hosts an historic resource (based on a 0.5 g/t cut off and gold price of US\$1,200/oz of 275,000oz being 6.34 million tonnes at 1.35 g/t) in the Indicated category and 32,500oz (0.72 million tonnes at 1.40 g/t) in the Inferred category. The resource was prepared by AMEC Americas in June 2013 with Legend Gold as the commissioning client.

Diba Resource

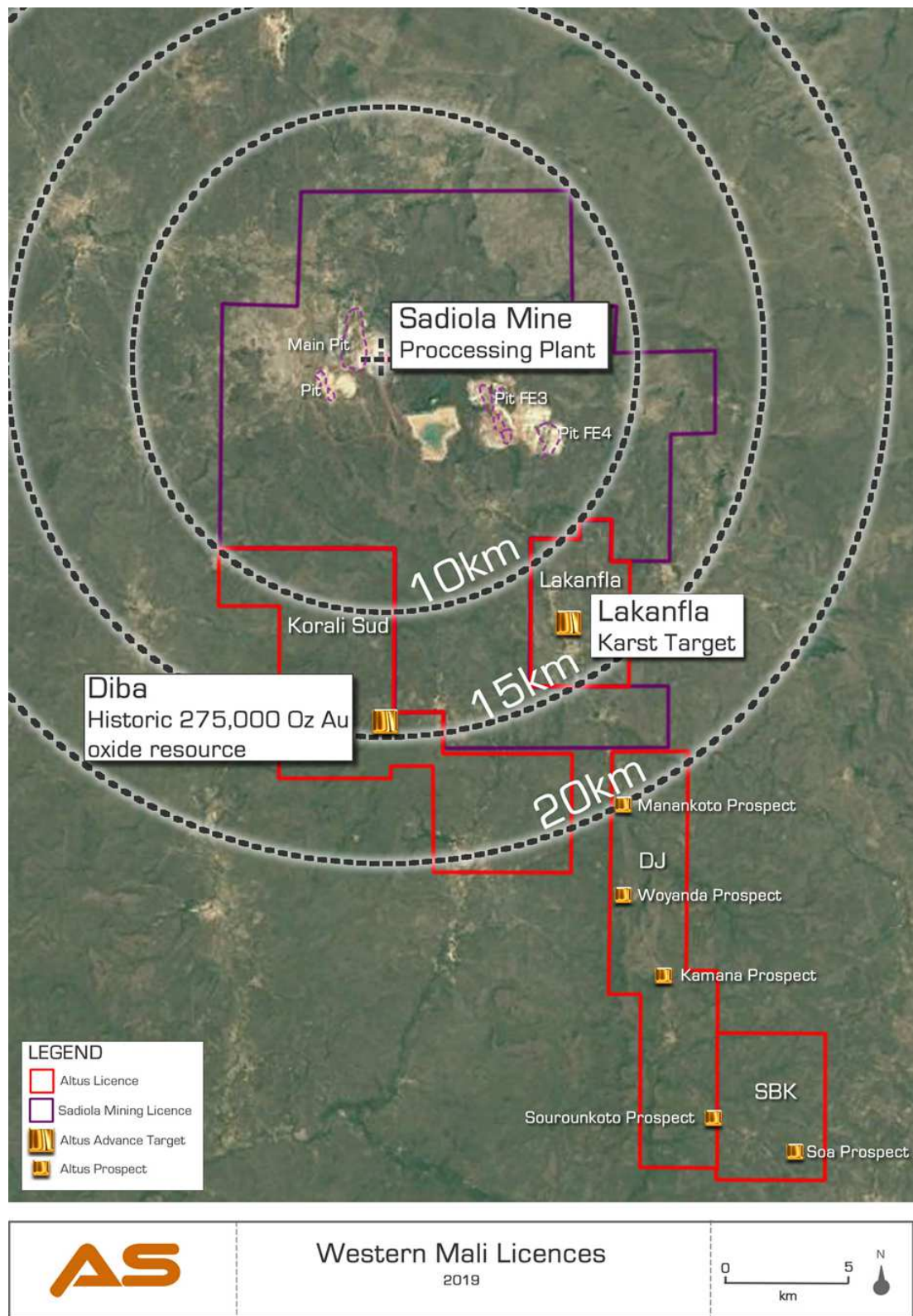
Category	Ton (kt)	Au Grade (g/t)	Au Contained (koz)
Indicated	6,348	1.35	275.2
Inferred	720	1.4	32.5

Previously reported drill results from the Diba prospect include 12m @ 20.66g/t Au and 32m @ 2.06g/t Au. Diba potentially has a low mining strip ratio with relatively limited overburden and a high proportion of the potential ore is in the oxide zone. Deeper drilling at Diba targeting the sulphide zone has intersected 1.32 g/t over 45m (from 93m). The sulphide zone remains open at depth. Altus has not verified the historic drilling data at the Diba project.



Diba is situated approximately 13km southwest of the 13mn oz Sadiola gold mine, which is operated jointly by AngloGold Ashanti (JSE: ANG, NYSE: AU, ASX: AGG), IAMgold (TSX: IMG, NYSE: IAG) and the Malian government. Sadiola lies on the Senegal-Malian shear corridor within the world renowned 'Kenieba window'.

The closeology to these other projects/mines can be seen on the ma on the following page. Scuttlebutt going around suggests that IAMgold may have Sadiola up for sale. Other talk suggests that there are covenants that stop certain assets in the zone from being sold to certain other parties. This makes for an interesting, and highly fluid, Machiavellian soup (to mix some metaphors). Altus wants to be a beneficiary of these machinations so is not hurrying to sign up an earn-in partner on Diba.



While the company has over 18 projects in contention, it is this one that looks like it might be able to generate the most attention in the short term. We would reiterate that Altus has been a **Long** position in the Model Mining Portfolio for a few months now and that we have a 12-month target price of 24 p on the stock.

Portfolio Changes

There were three portfolio changes during the month.

- Added a Long position in Hummingbird Resources. Bought 300,000 shares in HUM.L at UKP 23.25 pence per share on September 19th
- Added a Long position in Verde Agritech. Bought 200,000 shares in NPK.to at CAD \$0.80 per share on September 17th
- Sold our Long position in Westgold. Sold 67,567 shares in WGX.ax at AUD \$2.47 per share on September 17th.

The Portfolio Move

Having gone massively Long does not seem to have helped the Model Mining Portfolio over the last year. Cash reached a record low for us at a mere USD\$35,000 and yet the sloppy markets mean that the portfolio's value fell to \$3.751mn down from \$3.996mn at the end of August. A slight part of the problem was the Short on **Galane Gold** (GG.v) going underwater. As we all know, Galane ultimately delivers on poor news so we are awaiting the inevitable correction there.

Verde Agritech (NPK.to)

Verde Agritech is a stock that we first met a long time ago in its previous guise as Amazon Minerals PLC. Despite being a UK company it was, and still is, TSX-listed. The one thing that hasn't changed is its focus on Brazilian fertilizers. Potash stories were once quite common but then their numbers dwindled and the proportion that actually made it to production was small indeed. Verde has the interesting aspect that not only is it in one of the largest fertilizer consuming countries in the world but that it is also in production and has arrived there almost in a stealth manner. The problem with being stealthy is that the market does not see or recognize what one has achieved.

The company's Cerrado Verde Project is located in the Alto Paranaíba region of Minas Gerais State, Brazil, approximately 39 km to the east of the city of São Gotardo. São Gotardo is located approximately 320 km west of Belo Horizonte (the capital of the state of Minas Gerais) and is connected via a high-quality paved road (BR-262). From São Gotardo, the project area is accessed via secondary gravel roads which connect with the nearby farming region. The project is close to the largest agricultural region of the country, the Brazilian savannah.

The mine's output is a multi-nutrient fertilizer product that it has branded Super Greensand®, an alternative to Potassium Chloride (KCl), which is a widely used fertilizer in Brazil. Prior to Verde's entry into production, the country had only one KCl mine and therefore needed to import over 90% of what was used.

The initial Phase One plant set-up can be seen below:



Compared with KCl, which is not the most suitable product for tropical agriculture, Super Greensand® production has the advantage that the rock has a high potassium grade (average of 10% K₂O). The product may in the longer-term may allow Brazil to decrease its dependence on potassium imports and while being a more sustainable and appropriate fertilizer for tropical soils (due to lower chloride content). It's worth noting that Brazil is the biggest importer of fertilizers, while it is the second biggest user (after China). The US, much to the surprise of many is only in third position.

	Proven Reserve	Probable Reserve	Total Reserve
Tonnes (Mt)	68.11	709.17	777.28
K₂O Grade (%)	10.34	9.72	9.78

This resource dates from December 2017 and was calculated with a cut-off of 8.5% K₂O.

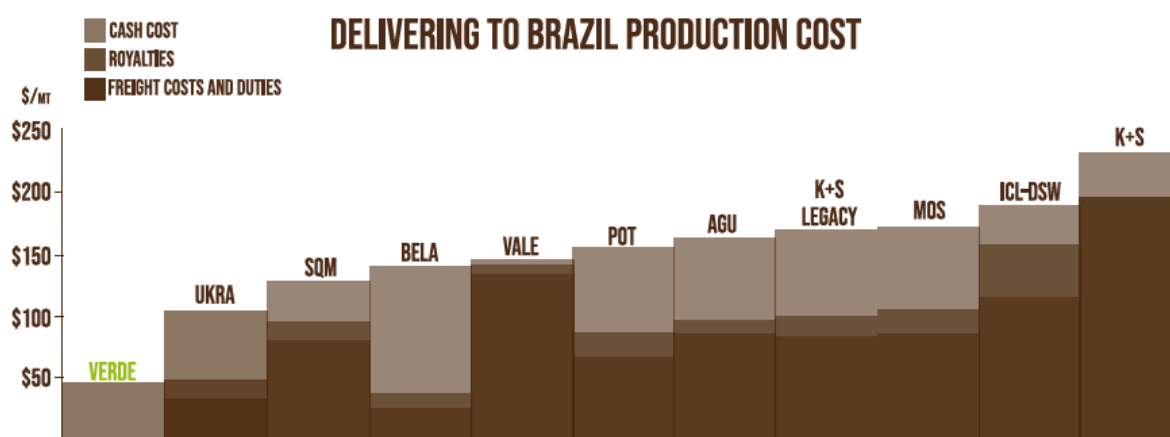
The embarrassing thing about this company is how it shows up the big capex potash projects that were doing the rounds a few years back (of whom few survive). Production began in 2018. At the moment its capacity is 200,000 tpa (the runrate from September). An expansion is underway to take capacity to 500,000 tpa in 2019, for which the capex is a mere *Reais* 3mn. This is primarily going on more crushing capacity, a conveyor, sheds and feeder. The plan necessitates a three-month shutdown.

Monday, October 7, 2019



With a market capitalization of around CAD\$30mn, the expansion of production has clearly passed the equities markets by. It certainly does not help the promotional effort that the Twitter feed is solely in Portuguese.

The price advantage that Verde has in delivering into the Brazilian market is made patently evident in the graphic below:



Revenues and bottom-line seem destined to trend upwards from this point onwards. Recognition remains an imponderable.

We added a **Long** position to the Model Mining Portfolio during this month. Our twelve month target

price is CAD\$1.36.

Hummingbird Resources (HUM.L)

We added a position in this AIM-listed gold producer to the portfolio after having stumbled across it whilst doing work on **Cora Gold** another AIM-listed explorer (CORA.L) that has Hummingbird as its major (18%) shareholder.

The main virtue of Hummingbird is its relative inexpensiveness and the potential that it shall recombine at some point in whole or part with Cora (which explores some assets in close proximity to Hummingbird's mine).

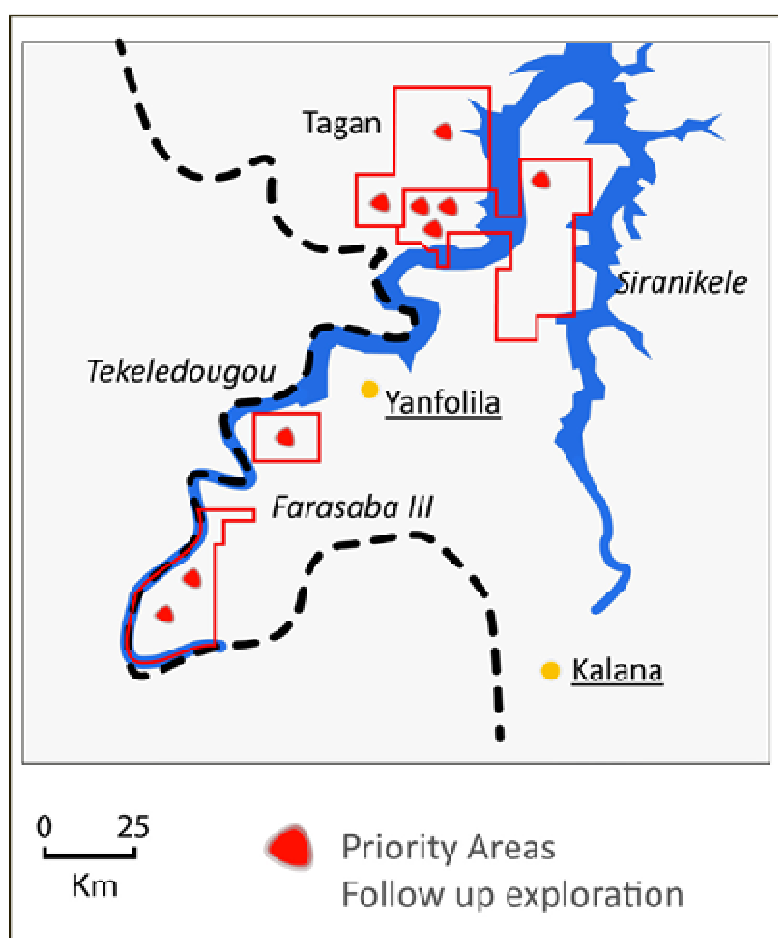
Hummingbird's operations consist of the Yanfolila Mine in Mali. This is an open pit mining operation, which poured first gold on time and on budget in December 2017.

The mining has hitherto been in oxide material. The carbon-in-leach process plant currently has a throughput capacity of 1.24mn tpa, which is expected to be enhanced in 2019 when the secondary ball mill project is completed in Q3. Once in place, the ball mill will increase throughput capacity to 1.4mn

tpa when processing a blend of ore types, and increase the rate from 1mn tpa to 1.23mn tpa, when processing 100% fresh ore.

The nexus between Cora and Hummingbird, beyond the shareholding of Hummingbird, is the proximity of Cora's Tekeledougou property. This consists of a single permit that encompasses an area of 45 sq km. Although the property has only been subject to limited soil, termite mound and rock-chip sampling, it includes elevated gold results, artisanal workings and a favourable geological setting.

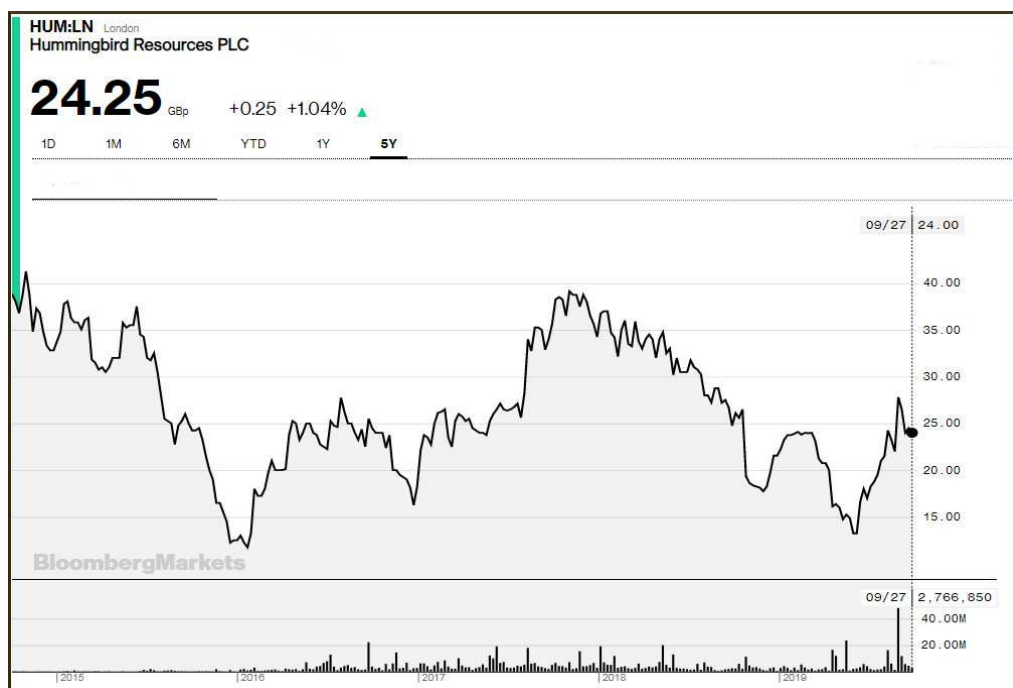
There are substantial artisanal pits on the property evidencing the prospectivity of this concession. Most interesting of these is the Woyoni Prospect, which is centred



around a flooded artisanal pit (of over 15 metres in depth) where miners had extracted gold from sheeted E-W and N-S quartz veins beneath approximately -3-4m of alluvial overburden. The property also occurs within 6 km of the Hummingbird Yanfolila (Komana) gold project. Despite this proximity, it was NOT one of the property that came to Cora from the Hummingbird transaction of several years ago.

The relevance for Hummingbird is that the oxide material at Yanfolila goes down to 50 metres whereas at Tekeledougou the oxide/suphide horizon is at 80 metres. With further exploration Tekeledougou could have the potential to be a feeder pit of free-digging oxide material in relative close proximity to the Yanfolila plant.

Despite being a producer in a market that favours production, and with a strong gold price of late, Hummingbird is trading at significantly below its levels of five years ago and even below the levels of last year.



We have added a **Long** position in Hummingbird to the Model Mining Portfolio with a 12-month target price of 45 pence.

Parting Shot

We have always been devoted fans of dividends. We have been sworn enemies of **First Majestic**, for example, due to its aggressively anti-shareholder approach on this issue. However we have been having iconoclastic thoughts on this issue due to the perverse dividend policy of **Neometals** (NMT.ax), which is to starve the company of cash via excessive dividend outflow, miss investment opportunities (by starving capex) and hence underperforming.

This stock peaked quite a while back and despite being part of a lithium producing venture (it sold out to **Ganfeng** last year) and being loaded with cash (in a market where most lithium players are rattling their begging bowls) the stock keeps going lower as investors largely perceive the stock is “over”.



That would seem strange for a company with interesting assets, a good residual share of the output of Mt Marion and management in their prime. But looming behind all this has been a corporate paralysis caused by a generational divide. The sucking sound South of the Border is dividends being taken out when they should be going towards evolving the next phase of the Lithium business or the company’s Ti-V-Fe asset at Barrambie. We have written on the latter before (2015) and yet nothing has happened (until recently) as there was no desire to spend the money to develop the asset. The whole Vanadium boom of 2018 passed the company by as it was not able to effectively enunciate a strategy for Barrambie beyond a nebulous low-value-added DSO shipping plan.

Then in recent days the company has announced a deal with a Chinese entity, the Institute of Multipurpose Utilization of Mineral Resources Chinese Academy of Geological Sciences (IMUMR) that involves setting up a JV. The company obviously thinks this is propitious but with China deep in the penalty box and with Australia’s long-established subservience to the power to the North fading, this deal looks decidedly retro. No wonder it had little effect on the stock price. The stock moved up from 18cts to 21cts, but for a major deal on its sole live asset, this was scarcely a great hurrah.

The essence of the deal is that some further testing will be done. If the parties are satisfied with the outcome of the evaluation activities, then the JV will be structured with Neometals’ wholly-owned subsidiary Australian Titanium Pty Ltd retaining ownership of the Barrambie Project and granting the JV a right to extract, beneficiate and transport a fixed quantity of ore from the project, with Australian

Titanium Pty Ltd receiving a commercial consideration for the ore extracted by the JV (on terms yet to be agreed).

Neometals will own a 50% JV interest in the JV's' right to mine a fixed quantity of ore at Barrambie, the beneficiation plant and in the integrated chemical business in China, via a wholly-owned subsidiary company. Galaxy Resources might care to whisper in Neometals' ear on the attraction of having on-shore jointly-owned assets in China... Not good...

The other problem has long been that management has been more in love with Titanium than Vanadium, while the latter gets our pulse racing despite the recent swoon. The fact the subsidiary is called what it is shows this schizoid problem. The potential of V over Ti in the long-term is scarcely recognized.

The one consolation is that Neometals (or was it **MinRes**?) totally bamboozled Ganfeng on the original Mt Marion transaction, so maybe they shall pull off a similar feat here. In reality we desperately need a demerger of Australian Titanium to the shareholders with the residual lithium "business" staying with those who see it as a milch cow. This prospect is the only reason to hang around at Neometals these days.

Mining Model Portfolio as at: 1st October 2019

Security		Initiated	Currency	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	21.48	6.10%	-4.40%	\$30.00
	Sherritt International (S.to)	7/11/2013	CAD	1.28	0.29	2.10%	-77.30%	\$1.00
	Metals X (MLX.ax)	5/29/2014	AUD	0.67	0.19	1.60%	-71.70%	\$0.80
Uranium	Uranium Participation Corp (U.to)	10/20/2010	CAD	5.36	4.25	6.90%	-20.80%	\$6.00
	GoviEx (GXU.v)	6/29/2015	CAD	0.08	0.16	4.20%	94.70%	\$0.35
Zinc/Lead Plays	Zinc ETF (Zinc.L)	6/2/2010	USD	7.63	7.44	7.30%	-2.40%	\$9.00
	NorZinc (NZC.to)	12/9/2011	CAD	0.82	0.095	0.20%	-88.40%	\$0.22
	Myanmar Metals (MYL.ax)	11/29/2018	AUD	0.06	0.05	1.90%	-16.70%	\$0.13
	Ascendant Resources (ASND.v)	10/31/2016	CAD	0.49	0.36	2.10%	-26.40%	\$1.00
Silver	Telson Mining (TSN.V)	3/19/2018	CAD	0.79	0.2	1.40%	-74.70%	\$1.10
	Excellon Resources (EXN.to)	11/8/2018	CAD	0.74	0.93	4.00%	25.70%	\$1.35
	Southern Silver Exploration (SSV.v)	8/25/2016	CAD	0.49	0.27	1.50%	-44.30%	\$0.35
Silver ETF	iShares Silver ETF (SLV)	7/12/2019	USD	14.17	15.92	7.80%	12.40%	\$18.00
Gold Producers	Para Resources (PBR.v)	2/17/2017	CAD	0.23	0.12	1.30%	-47.80%	\$0.58
	Hummingbird Resources (HUM.L)	9/19/2019	CAD	0.23	0.24	2.60%	1.30%	\$0.45
Coking Coal	Colonial Coal (CAD.v)	6/4/2018	CAD	0.35	0.3	2.60%	-14.30%	\$1.10
Project Generator	Altus Strategies (ALTS.v)	6/28/2019	CAD	0.09	0.07	2.00%	-22.20%	\$0.24
Metals Processor	IBC Advanced Alloys (IB.v)	4/29/2016	CAD	0.3	0.16	0.30%	-46.70%	\$0.25
Tungsten Producer	Almonty Industries (All.v)	7/31/2015	CAD	0.19	0.73	4.70%	287.00%	\$1.00
Copper Explorers	Panoro Minerals (PML.v)	1/22/2018	CAD	0.37	0.11	0.70%	-69.90%	\$0.65
	Argonaut Resources (ARE.ax)	11/22/2018	AUD	0.02	0.01	1.00%	-44.40%	\$0.05
	Western Copper & Gold (WRN.to)	4/25/2017	CAD	1.57	0.86	1.90%	-45.20%	\$2.10
Vanadium Developer	Vanadium Resources (VR8.ax)	11/23/2018	AUD	0.11	0.05	1.30%	-54.50%	\$0.25
	Lithium	Neometals (NMT.ax)	7/31/2014	AUD	0.3	0.18	3.30%	-40.60%
Scandium Explorer	Lithium Power Intl (LPI.ax)	10/25/2017	AUD	0.44	0.32	1.90%	-27.30%	\$0.95
	Scandium International (SCY.to)	8/23/2016	CAD	0.14	0.11	1.40%	-21.40%	\$0.30
	Platina Resources (PGM.ax)	10/25/2018	AUD	0.07	0.03	1.20%	-53.80%	\$0.18
Gold Explorer	Banyan Gold (BYN.v)	11/14/2017	CAD	0.06	0.05	2.50%	-19.40%	\$0.15
	Cabral Gold (CBR.v)	3/27/2019	CAD	0.21	0.14	7.00%	-31.70%	\$0.35
	Gunpoint Exploration (GUN.v)	11/9/2018	CAD	0.5	0.55	2.40%	11.10%	\$0.75
Fertilizers	Verde Agritech (NPK.to)	9/17/2019	CAD	0.8	0.72	3.10%	-10.00%	\$1.36
Cesium et al.	Pioneer Resources (PIO.ax)	7/26/2019	AUD	0.017	0.02	1.90%	17.60%	\$0.06
Rare Earths	Northern Minerals (NTU.ax)	6/9/2011	AUD	0.14	0.06	1.90%	-57.50%	\$0.28
	Neo Performance Materials (NEO.to)	10/25/2018	CAD	17.32	10.6	3.40%	-38.80%	\$23.00
Mining Media/Events	Aspermont (ASP.ax)	3/1/2019	AUD	0.009	0.01	3.90%	11.10%	\$0.02
Unlisted Suspended/RTO	New Noble Group	15/11/2017	SGD	0.2	n/a	n/a	n/a	
	Cabo Drilling (CBE.v)	9/28/2016	CAD	0.025	0.015	n/a	-40.00%	
NET CASH						35,358		
Short Equities								
						Weighting		
Shorts	NioCorp (NIO.to)	9/28/2018	CAD	0.61	0.6	59.90%	1.60%	\$0.40
	Galane Gold (GG.v)	4/28/2016	CAD	0.06	0.12	40.10%	-100.00%	\$0.03

Current Cash Position	35,358
Current Liability on Shorts Not Covered	247,396
Net Cash	282,754
Current Value of Bonds	0
Current Value of Long Equities	3,468,918
TOTAL VALUE OF PORTFOLIO	3,751,672

Short Equities	-8%
Long Equities	108%

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