

Cobalt Blue on the rebound

The market looked a little nervous on Tuesday afternoon with many stocks being pegged down, but it surged again on Wednesday as investors chased the big iron ore stocks, pushing BHP, Fortescue and RIO to new highs. Nevertheless, by the end of the week the market was looking a little subdued. There hasn't been a change of the positive sentiment yet, so maybe the market is having a breather before going higher. Profit taking remains the biggest threat to the market, especially where traders are sitting on good profits after taking placements recently.

Cobalt Blue is looking more attractive

A stock that had dropped off my radar, along with all the other cobalt stocks, is Cobalt Blue (COB). Last week we saw a presentation from the company that left me of the view that this continues to be a serious emerging cobalt producer as opposed to one of a myriad of companies that decided to add "cobalt" to their announcements to get some benefit of the mini-boom in cobalt stocks and prices. To be realistic, almost all of those companies were never going to cut the mustard just by calling their project cobalt/copper rather than copper/cobalt. The nickel/cobalt projects are not much better.

Cobalt Blue was a real flyer in 2018, with the stock hitting \$1.28 about a year after the 20¢ IPO, but it has been all downhill since then. The cobalt price collapsed when African sources quickly filled the supply shortage and a dispute with the joint venture partner, Broken Hill Prospecting, turned investors away in droves. No wonder it dropped off my radar. But that is all history now. It is the future that we should be looking at.

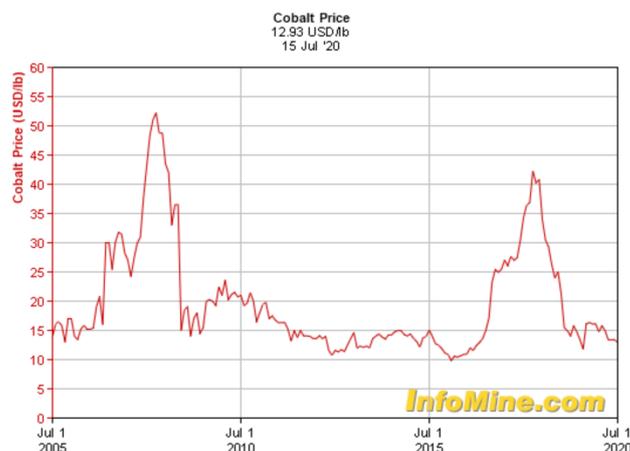
Enhanced project economics in ASX release

On Thursday, COB released a Project Update with a number of positive improvements in the numbers for the now 100%-owned Broken Hill Cobalt Project (previously called Thakarringa). In point form these were;

- a 55% increase in the Probable Ore Reserve to 71.8 Mt at 710 ppm Co (51,000 tonnes of cobalt)
- reduction in pre-production capex of A\$70m
- increase in planned capacity to 6.3 Mtpa
- reduced environment footprint through obviation of the need for a tailings dam
- increased production target by 67%, to 98 Mt at 690 ppm Co.
- project life increase from 13 to 17 years with a capex payback of four years

If you think this sounds like a serious project as opposed to a share market play, you are right. Without cobalt being a hotspot for speculators, its share price will depend upon the ability of serious investors to tuck shares away ahead of production, which will be 3-4 years away. The real financial question is whether or not the project will be sufficiently profitable to enable the \$560m capex to be raised.

COB has quoted a C1 cost of US\$9.34/lb net of nickel and sulphur credits (which is 27% lower than previously estimated) and the AISC is US\$12.10/lb. While the chart below shows that the cobalt price is down around these levels, there have been times when it has been much higher.



A unique cobalt project

COB's project is very different to any other cobalt project on the ASX. It is not a laterite nickel/cobalt project with all the complication of HPAL and it is not dependent upon the nickel price as the most important product. It is not a copper project with cobalt credits. It is a cobalt/sulphur project.

The process design doesn't involve any magical new technology. It comprises mining, concentrating, calcining, leaching (at a modest 130° and 10 bar), and precipitation of a mixed hydroxide product (MHP) at 37% Co and 7% Ni initially, which is then crystallised to a cobalt sulphate saleable product with a grade of 20.8%. This is the precursor material for the manufacturing of batteries. At the moment the price received for cobalt in this form is equivalent to the cobalt metal price, which is much better than the 70% payability we see for MHP.

Sulphur by-product will account for 16% of revenue

While cobalt is estimated to provide 84% of the revenue, elemental sulphur is expected to provide the other 16%. Australia currently imports about 1.2 Mtpa of sulphur with about 55% of this used by the fertiliser industry and the rest goes into mining for acid production. It costs US\$145 pt landed in Australia, including \$35 pt freight. COB's numbers assume it can receive \$145 pt for sales of 300,000 tpa in Australia.

Timeline

The timeline calls for bench-top scale samples by the end of 2020. A demonstration plant may be operating in the middle of 2021, with treatment of 2,000 tonnes of ore enabling 2,000-3,000 kg samples to be sent to battery manufacturers by the end of 2021. That would mean that full project development is another two years after that date.

The capex hurdle

There are quite a few junior companies with resource projects that will cost hundreds of millions of dollars to construct and commission. In many cases there is a naive belief that these projects will get up and running because the numbers look good on a spreadsheet, but the competitive world doesn't work like that. What is missing in most cases, even before the money is raised, is truly competent operators/entrepreneurs who can get the project over the line and make it real.

The Broken Hill Cobalt Project is somewhat unique in terms of what its main product will be, so it is not a case of competing with a list of other projects. It will need to bring in real operating personnel but this is work in progress. Having LG International on the register as a strategic partner is a good starting position, along with Mitsubishi on the sulphur front.

The real technical question is whether or not COB can deliver the product the battery manufacturers want. If so, and from a politically acceptable jurisdiction, we have room to be optimistic about the eventual development. So far, so good.

In the meantime the \$18m market capitalisation is a modest launching pad that offers good leverage to the expanding battery markets. A quick look at the cash balance of \$2m will tell you that there will be a capital raising coming soon, so maybe that will give investors a chance to take stock at the bottom of the market. This should be seen as a buy and hold proposition rather than a hot trading stock. It is also lower risk than many of the juniors out there that claim to have the answer to the next new battery design. COB will be a supplier to those who want cobalt in their battery design.

Disclosure: FEC was lead manager in the Cobalt Blue IPO.

Lindian's maiden resource - 83.8 Mt at 51.2%

Lindian has finally come out with an Indicated Resource statement for its Gaoual conglomerate bauxite project in Guinea. The high grade component is 83.8 Mt at 51.2% Al₂O₃, which is roughly in line with what we were looking for when we last commented. Silica levels are at 11% but it is believed this can be reduced by screening of fine-grained quartz.

The grade continues to be the key advantage for this project. There is the potential to sell the ore to existing processing plants owned by third parties to achieve a very profitable operation, but this is where project development and negotiating skills come into play. The company has lost its CEO who seemed to have these skills and the in-country

experience, so progress may depend upon who it is that takes over that role.

On paper, at a market capitalisation of only \$7m, Lindian is selling at option value only. There is little downside risk from here and plenty of upside if it can recruit the right CEO.

Disclosure: FEC received placement fees from Lindian in 2019, and currently owns options in the company

How much buying of gold is caused by China concerns?

The following words were taken from the magazine *Foreign Affairs* in a post from the 15th July.

In the months since the pandemic first engulfed the world, China's government has engaged in an unprecedented diplomatic offensive on virtually every foreign policy front. It has tightened its grip over Hong Kong, ratcheted up tensions in the South China Sea, unleashed a diplomatic pressure campaign against Australia, used fatal force in a border dispute with India, and grown more vocal in its criticism of Western liberal democracies.

In the past, the CCP generally sought to maintain a relatively stable security environment, occasionally seizing opportunities to advance the country's aims without provoking undue international backlash and carefully recalibrating whenever it overreached. Beijing's recent actions, however, reveal no such conservatism or caution. China may simply be taking advantage of the chaos of the pandemic and the global power vacuum left by a no-show U.S. administration. But there is reason to believe that a deeper and more lasting shift is underway. The world may be getting a first sense of what a truly assertive Chinese foreign policy looks like ... now that it is firmly under the control of a singularly strong leader, Xi.

The strength of the gold price can be attributed to concerns of inflation from the injection of liquidity as discussed in last week's publication, but perhaps more relevant is the increasing geopolitical uncertainty that has come with China's blatant aggression. Maybe the Chinese are buying more gold and maybe investors in the USA and elsewhere in the Western world are buying because of uncertainty about war, be it cold or hot. If so, interest in gold should remain strong for some time.

Remember to look beyond the headlines

You might be getting tired of me making the point that there is still too much distortion in the reporting of gold intercepts, but companies continue to splash numbers around without putting them in proper perspective.

The latest example is where a company reported an intercept of 37m at 6.21 gpt. You would be justified in thinking that this is very impressive, delivering both high grade and width, but as the ASX release said, it is "exceptional" i.e. out of the ordinary. We need to put it in perspective to see if it is a game changer or just another example of how gold deposits can vary greatly in width and grade.

Within the 37m intercept there was a higher grade interval of 13m at 10.94 gpt. If that was representative of the rest of the body then it would likely support a good, high grade

mine. The balance of the larger intercept was 24m at 3.65 gpt; useful, but not necessarily wonderful. Reduce the lengths of the intercepts to get a true width (as opposed to down-hole), and you start to get an idea of what a mineable width may be.

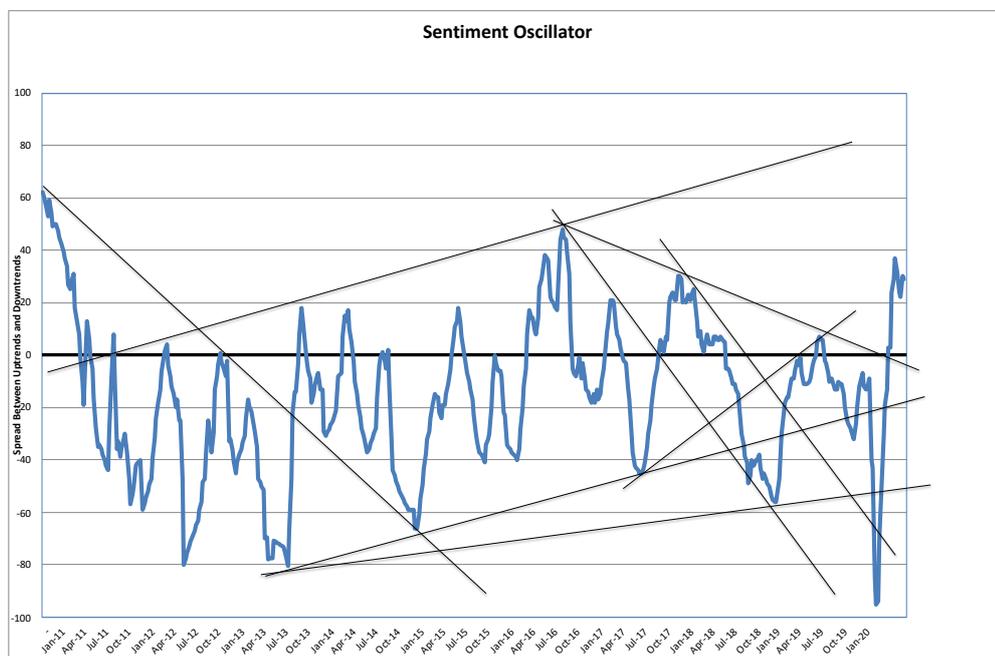
There were six holes reported. The best intercepts reported are tabled below. It is a mixture of high and low grades and widths.

- Hole 1 7m at 8.95 gpt from 132m down hole (DH)
- Hole 2 6m at 1.88 gpt from 60m DH
- Hole 3 4m at 5.24 gpt from 158m DH
- Hole 4 1m at 1.01 gpt from 161m DH
- Hole 5 1m at 0.58 gpt from 89m DH
- Hole 6 37m at 6.62 gpt from 90m DH

When you drill out an orebody you need hundred of holes spaced at statistically relevant line intervals along strike, giving a data set of pierce points at a range of depths. You

can then start to understand the distribution of gold within the geology and apply cut-off grades that will remove the outliers that could distort the grade calculation. The engineers can then start to examine the geometry to see what is physically possible to mine.

My points is this; almost every gold orebody will give you wide variations of grade and widths. It is naive to look at a few headline intervals without looking at the rest of the holes. There is nothing wrong with companies drawing your attention to some exceptional results, but you have to put them into perspective. In defence of the companies making the releases, it can often take much thought and analysis before even they can say what it really means. Unfortunately the continuous disclosure regulations don't afford companies the luxury of time, and this leads to greater volatility in share prices than what you would otherwise see with a better considered release.



Sentiment Oscillator: Sentiment was steady over the week with 51% (51%) of the charts in uptrend and 22% (22%) in downtrend on Friday's close.

Detailed Chart Comments

NB. Only the bold comments have been updated. Comments in grey type are from previous weeks and will be less relevant. Please note that this list is a cross section of the market. It IS NOT a list of recommendations.

Indices	Code	Trend Comment	
All Ordinaries	XAO	surged high out of consolidating pattern	
Metals and Mining	XMM	upside breakout	
Energy	XEJ	sideways	
Stocks	Code	Trend Comment (updated comments in bold)	Main Interest
Alpha HPA	A4N	new high	HPA
Adriatic Resources	ADT	upside breakout	zinc
Aeon Metals	AML	testing downtrend	copper + cobalt
Alkane Resources	ALK	new high	gold, zirconia
Alicanto Minerals	AQI	sideways	gold exploration
Allegiance Coal	AHQ	at lows	coal
Alliance Resources	AGS	testing uptrend	gold exploration
American Rare Earths (was BPL)	ARR	on support line	rare earths
Apollo Consolidated	AOP	new high	gold exploration
Arafura Resources	ARU	down again	rare earths
Aurelia Metals	AMI	continuing higher	gold + base metals
Australian Potash	APC	breached downtrend	potash
Australian Vanadium	AVL	new low	vanadium
Auteco Minerals	AUT	at highs	gold exploration
BHP	BHP	new high	diversified, iron ore
Base Resources	BSE	hitting resistance	mineral sands
BBX Minerals	BBX	surge higher	gold exploration
Beach Energy	BPT	heading lower	oil and gas
Beacon Mining	BCN	still beneath resistance line	gold production
Bellevue Gold	BGL	new high again	gold exploration
Blackstone Minerals	BSX	rising	nickel
Blue Star Helium	BNL	rising	gas, helium
Breaker Resources	BRB	hitting resistance	gold exploration
Buru Energy	BRU	heading lower	oil
Buxton Resources	BUX	turned down at resistance line	nickel exploration
Capricorn Metals	CMM	rising again	gold
Cardinal Resources	CDV	surge on takeover bid	gold exploration
Central Petroleum	CTP	shallower downtrend	oil/gas
Chalice Gold	CHN	rallying	gold exploration
Chase Mining	CML	down heavily	nickel/copper/PGE
Chesser Resources	CHZ	testing uptrend	gold exploration
Dacian Gold	DCN	new low	gold
Danakali	DNK	rising	potash
Davenport Resources	DAV	rallying	potash
De Grey	DEG	pullback	gold

E2 Metals	E2M	testing uptrend	gold exploration
Ecograf (was Kibaran)	EGR	sideways	graphite
Element 25	E25	at highs	manganese
Emerald Resource	EMR	new high	gold
Evolution Mining	EVN	at highs	gold
First Graphene	FGR	still in long term downtrend	graphene
Fortescue Metals	FMG	new high	iron ore
Galaxy Resources	GXY	breaching support	lithium
Galena Mining	G1A	hitting secondary resistance	lead
Galilee Energy	GLL	upside breakout	oil and gas, CBM
Gold Road	GOR	correcting lower	gold
Graphex Mining	GPX	suspended since 25th March	graphite
Heron Resources	HRR	breaching downtrend	zinc
Highfield Resources	HFR	falling back to support line	potash
Hillgrove Resources	HGO	still in downtrend	copper
Iluka Resources	ILU	correcting lower	mineral sands
Image Resources	IMA	slump out of short term uptrend	mineral sands
Independence Group	IGO	Uptrend breached	gold, nickel
ioneer (was Global Geoscience)	INR	down	lithium
Ionic Rare Earths (Oro Verde)	IXR	breached downtrend	rare earths
Jervois Mining	JVR	looking weaker	nickel/cobalt
Jindalee Resources	JRL	still under resistance line	lithium
Kin Mining	KIN	rallying	gold
Kingston Resources	KSN	new high	gold
Kingwest Resources	KWR	down	gold
Legend Mining	LEG	downtrend	nickel exploration
Lepidico	LPD	testing downtrend	lithium
Lindian Resources	LIN	breached downtrend	bauxite
Lithium Australia	LIT	still in long term downtrend	lithium
Lotus Resources	LOT	rallying	uranium
Lucapa Diamond	LOM	at lows	diamonds
Lynas Corp.	LYC	breaching uptrend	rare earths
Mako Gold	MKG	pullback	gold exploration
Manhattan Corp	MHC	spiked higher on positive drill results	gold exploration
Marmota	MEU	strong recovery	gold exploration
MetalsX	MLX	breached downtrend	tin, nickel
Metro Mining	MMI	rising	bauxite
Mincor Resources	MCR	surge to new high	gold/nickel
Musgrave Minerals	MGV	strongly higher	gold exploration
Myanmar Minerals	MYL	breached downtrend	zinc
Nelson Resources	NES	breached uptrend	gold exploration
Neometals	NMT	continuing down	lithium
Northern Minerals	NTU	new low	REE
Northern Star Res.	NST	rallying	gold

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NTM Gold	NTM		rising again	gold exploration
Oceana Gold	OGC		new high	gold
Oklo Resources	OKU		breached uptrend	gold expl.
Orecorp	ORR		rising	gold development
Orocobre	ORE		heavy correction	lithium
Oz Minerals	OZL		on trend line	copper
Pacific American Holdings	PAK		new low	coal
Pacifico Minerals	PMY		rising	silver/lead
Pantoro	PNR		new high	gold
Panoramic Res	PAN		down	gold , nickel
Peak Resources	PEK		back to lows	rare earths
Peel Mining	PEX		uptrend	copper
Peninsula Energy	PEN		down again	uranium
Pure Minerals	PM1		testing downtrend	nickel/cobalt/HPA
Pensana Metals	PM8		rising again	rare earths
Perseus Mining	PRU		drifting within uptrend	gold
Pilbara Minerals	PLS		at apex of flag	lithium
Polarex	PXX		uptrend	polymetallic exploration
Ramelius Resources	RMS		on trend line	gold production
Red5	RED		crunched down	gold
Red River Resources	RVR		broken through resistance line	zinc
Regis Resources	RRL		uptrend again	gold
Reenergy	RLT		rising	gas, helium
Resolution Minerals	RML		rising again	gold
Resolute Mining	RSG		rising	gold
RIO	RIO		surge higher	diversified, iron ore
Rumble Resources	RTR		rising	Gold exploration
Salt Lake Potash	SO4		rising	potash
Saracen Minerals	SAR		on trend line	gold
St Barbara	SBM		on trend line	gold
Sandfire Resources	SFR		on trend line	copper
Santos	STO		breached uptrend	oil/gas
Saturn Metals	STN		recapturing uptrend	gold exploration
Sheffield Resources	SFX		correcting within uptrend	mineral sands
Sky Metals	SKY		heavy correction	gold exploration
St George Mining	SGQ		at recent highs	nickel
Silex Systems	SLX		pullback	uranium enrichment technology
Silver Mines	SVL		on trend line	silver
Sipa Resources	SRI		rising	general exploration - Ni,Cu, Co, Au
Stanmore Coal	SMR		down again	coal
Strandline Resources	STA		new high	mineral sands
Syrah Resources	SYR		breached uptrend	graphite
Talga Resources	TLG		rising	graphite
Technology Metals	TMT		rising	vanadium

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Tesoro Resources	TSO		breaching uptrend	gold exploration
Theta Gold Mines	TGM		steep rise	gold
Titan Minerals	TTM		bouncing off support line	gold
Vango Mining	VAN		testing downtrend	gold
Venturex	VXR		down again	zinc
Vimy Resources	VMY		heavy fall after placement	uranium
West African Resources	WAF		off its high	gold
Westgold Resources	WGX		breaching downtrend	gold
West Wits Mining	WWI		rising	gold
Western Areas	WSA		testing downtrend	nickel
Whitebark Energy	WBE		sideways	oil and gas
Whitehaven Coal	WHC		secondary downtrend	coal
Yandal Resources	YRL		rising	gold exploration
Zinc Mines of Ireland	ZMI		testing downtrend	zinc
Totals	51%	70	Uptrend	
	22%	30	Downtrend	
		137	Total	

Guides to Chart Interpretations

- Charts usually go pass from one trend (up or down) into the other via a period of indecision and uncertainty during which the trend can either recover or change. This period is signified by the orange colour. The orange represent both the greatest risk and greatest reward possibilities.
- Once a chart is in confirmed up or downtrends it is not uncommon for 10-20% of that trend to have already transpired.
- There are trends within trends. The focus of this chart review is the immediate trend that affects the sentiment i.e. it can be a downtrend within a long-term uptrend.
- Not every chart warrants a new comment every week. The new comments are in bold type. Grey type comments may be dated.
- Individual charts provide a single view. It is valuable to look at charts of other companies in similar commodities, and the overall sentiment is also very valuable. Not many stocks can swim against the tide.
- We periodically add or delete charts, some times for obscure reasons. If a chart consistent gives poor signals or is very erratic, we may delete it. Sometimes we add a chart because we want to see what all the fuss is about. We do have a preference for charting stocks that we cover in our research as well.
- Errors and omissions may occur from time to time, especially in fast moving markets.

Amber Lights in Tables: Just a reminder if when the amber light is used in the table – it is when the charts are ambiguous or when there is a change of trend taking place. If a chart is breaching a downtrend it can either be a positive sign or a trap. Only once it has done more work can it be confirmed as a new uptrend. Maybe it is a new uptrend (or conversely a new downtrend); the risk takers can decide to jump on board early (or sell). They will maximise their profits (or minimise their losses if indeed it is the start of the new uptrend (downtrend). More risk-averse investors should wait a little longer, being prepared to give up some of the gains in return for greater certainty.

Weightings of Sectors Represented in the Company Charts

Sector	No. of Companies	Weighting
Gold	31	22.6%
Gold Exploration	22	16.1%
Zinc/Lead	10	7.3%
Nickel	8	5.8%
Oil/Gas	8	5.8%

Lithium	8	5.8%	
Coal	5	3.6%	
Mineral Sands	5	3.6%	
Rare Earths	7	5.1%	
Potash/Phosphate	5	3.6%	
Copper	5	3.6%	
Graphite	4	2.9%	
Iron Ore/Manganese	4	2.9%	
Uranium	3	2.2%	
Bauxite	3	2.2%	
Silver	3	2.2%	
Cobalt	1	0.7%	
Vanadium	1	0.7%	
Tin	1	0.7%	
Diamonds	1	0.7%	
Other	2		
Total	137		

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