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On Friday's Close

Analyst : Warwick Grigor

Recovery in mining stocks means a better six month outlook

Looking at the lead indicators it is positive to see that the Metals and Mining Index has held its higher levels after breaching the six month downtrend. The same could have been said of the All Ordinaries had it not been sold down heavily on Friday, though it does seem to be in a sideways pattern now. The Energy Index is also moving sideways having had its own correction. Thus the charts on these three indices suggest a better six months months than we have just experienced. This perspective is confirmed by the Sentiment Oscillator, which has shown another improvement over the week.

Even though the higher A\$ is eroding some of the gains in metal prices there is no reason to be negative now as the gold price continues to improve. Copper has had a strong week, as has nickel. The turning point in the mining shares was the first week in July. It looked tentative as it wasn't in the shape of a bounce, so most people would have been waiting for stronger evidence, but that is coming through now.

FGR reports excellent fire retardant test results

As part of the third leg of its vertically integrated graphene strategy, whereby it is advancing applications and IP to capture downstream earnings from its graphene division, FGR has announced excellent test results from the fire retardant that it is developing with the University of Adelaide. This is very topical given the Grenfell apartment block fire in the UK, and the news overnight that Brisbane's Princess Alexandra Hospital has 24,000 m² of combustible cladding.

The FGR product is a significant improvement on existing fire retardants not only because it is more effective, and it costs less, but because it avoids the use of substances that are carcinogenic and which can produce toxic and polluting gasses in a fire situation.

On the technical level, when FGR's fire retardant is sprayed on in a 50 micron layer over wooden material and cladding it minimises the intumescent effect, whereby the heat of a fire causes a swelling of materials that compromises structural integrity and leads to building collapses. Have a look at the video on the following link which shows you that wood coated with the retardant won't burn. <https://youtu.be/v82SrC72R0s>. It will be interesting to see the outcomes when this retardant is tested on a larger scale such as a wooden shack and structures using various cladding materials. So far there are expectations that we will see a dramatic improvement over what is available in the market place today.

FGR is further proving that it is Australia's leading graphene company, being able to produce not only the best quality but also the lowest cost graphene, with a commercial scale plant being constructed and scheduled for commissioning in Q4 of 2017. It has come from nowhere to this advanced position in only two years.

On the share market front, it should be noted that one of the largest shareholders, with approximately 5% of the issued shares in FGR, recently disposed of his entire shareholding to several parties in on-market sales. This line had been overhanging the market for quite some time, providing a barrier to upwards share price movements. With that line now removed we expect to see better performance, particularly given the positive news flow that we have been seeing.

Emerald Resources - Okvau Gold Project (100%)

Emerald Resources (EMR) is an example of an emerging gold producer that is ticking all the boxes with the benefits of an experienced team. It is not a development that is happening "by serendipity", as sometimes happens when a successful exploration company actually finds and proves an orebody, then tries to transition to being a producer. It is an example of how a promising project can pass through several hands until it ends up with a group that has proven development and production experience.

By way of background, when I was working at Canaccord (BGF Equities) in 2010, we managed an IPO of a junior gold exploration called Renaissance Minerals (RNS). Subsequently, in February 2012, RNS announced a deal to acquire the Okvau gold project in Cambodia, from Oz Minerals. The cost was upfront cash of \$7.8m, the issue of 26.4 mill. shares and deferred cash payments totalling \$27.5m upon certain milestones. The gold resource comprised 12.6 Mt at 1.8 gpt for 729,000 oz. It was a great purchase that gave Renaissance a chunky project upon which to build a future, but at the end of the day it still had to confront the hurdle of building a mine.

However, that deal proved somewhat onerous for RNS and the terms were changed in September 2013, delaying the need to pay \$10m upon proving 1.25 Moz to the decision to mine, in consideration for the issue of a further 15.3 mill. shares. A further amendment was announced in August 2015, as the bear market continued to plague the mining sector. The remain payments obligations of \$22.5m were cancelled in exchange for a 1.5% royalty, that was capped at \$22.5m.

In February 2016, Emerald entered into a deal to earn 51% of Okvau by funding a DFS and a US\$3m exploration program. It also subscribed to a \$3.4m placement in RNS. Six month later the two companies agreed to merge with a deal that valued RNS at \$40m, being a 27% premium to the 30 day VWAP. The merged entity was to be capitalised at \$95m, at the time. Interestingly, EMR is currently cheaper today with a capitalisation of \$88m.

Since the merger Emerald has spent in the order of \$14m to advance the project to the completion of a DFS in May 2017. The capacity has been increased from 1.5 Mtpa to 2 Mtpa, a size the operators have had more experience with. All up capex is now looking at US\$98m. Cash costs average US\$650/oz and AISC are projected to be US\$731/

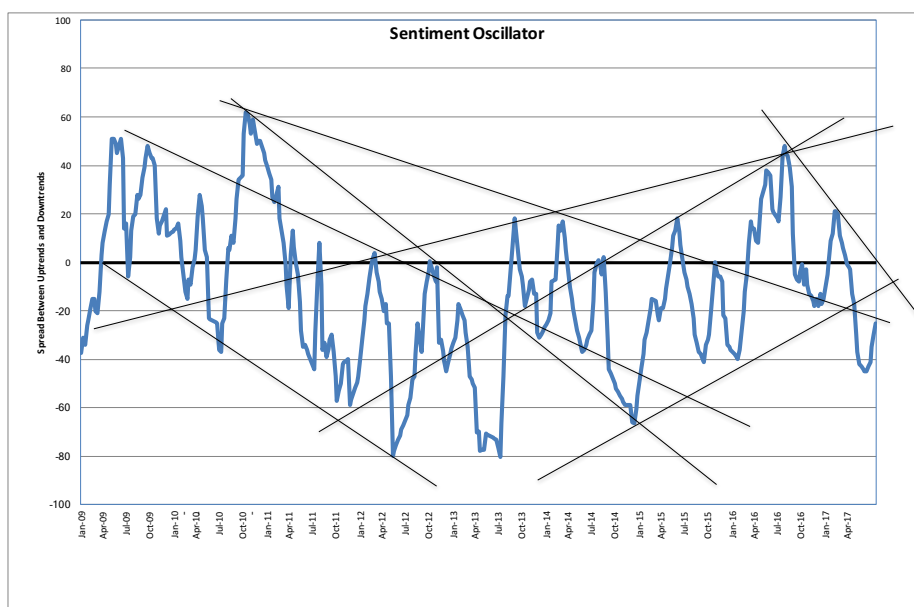
oz. The initial ore reserve is calculated at 14.3 Mt at 2 gpt for 907,000 oz, out of a mineral resource of 17.7 Mt at 2 gpt, being 1.14 Moz of gold.

Annual gold production will average 106,000 oz. This will mostly come (70-75%) from free gold in the circuit at a grind size of 106 micron, but the balance will come from flotation of predominantly arsenopyrite ore and regrinding with ceramic media the concentrate, down to 15 microns. These steps add about US\$7m to the total capex, but volumes are small due to the 7-8% mass pull in the the circuit. The operating costs of these steps adds only \$1.05 pt to the cost of treating the ROM ore.

Development is scheduled to commence in Q4 2017, enabling a first gold pour in Q1 of 2019, but this assumes no problems with the approval of the EPA being granted within two months of today.

Emerald is still working on the finance, aiming to raise US\$65m by way of debt and US\$60m in equity.

No project is without commissioning risk, but at least these guys have had prior, successful experience. The numbers all make sense with the market capitalisation at around \$90m. The forthcoming round of equity capital raisings would be the cheapest, most convenient entry point for institutional size investors who need to buy in volume.



Sentiment Indicator: The Oscillator improved again as a number of stocks exited downtrends, being the first step on the path to new uptrends. While a positive step, further evidence is required before such uptrends can be confirmed. There were 23% (21%) of the charts in uptrend and 48% (51%) in downtrend.

Detailed Chart Comments

NB. Only the bold comments have been updated. Comments in grey type are from previous weeks and will be less relevant.

Indices	Code	Trend Comment	
All Ordinaries	XAO	breached downtrend with sideways pattern	
Metals and Mining	XMM	surging after breached short term downtrend	
Energy	XEJ	short term downtrend being tested	
Stocks	Code	Trend Comment (updated comments in bold)	Main Interest
ABM Resources	ABU	sideways through downtrend	gold
Aeon Metals	AML	rising again	copper + cobalt
Alacer Gold	AQG	falling from rally	gold – production
Alkane Resources	ALK	spiked higher	gold, zirconia
Acacia Resources	AJC	Sideways at the bottom	coal


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Aguia Resources	AGR	■	weaker	phosphate
Alicanto Minerals	AQI	■	new low on rights issue shortfall	gold exploration
Allegiance Coal	AHQ	■	rising	coal
Alliance Resources	AGS	■	sideways	gold exploration
Alltech Chemicals	ATC	■	breached short term downtrend	industrial minerals
Anova Metals	AWV	■	strong rebound, then fell again	gold
Antipa Minerals	AZY	■	short term uptrend being breached	gold
Apollo Consolidated	AOP	■	new low	gold exploration
Archer Exploration	AXE	■	surge through downtrend	magnesite, graphite
Argent Minerals	ARD	■	gentle uptrend	polymetallic
Aspire Mining	AKM	■	testing downtrend	coal
Atrum Coal	ATU	■	new low	coal
Aurelia Metals	AMI	■	at apex of wedge	gold + base metals
Auroch Minerals	AOU	■	down	exploration
Aus Tin	ANW	■	testing downtrend	tin, cobalt
Australian Bauxite	ABX	■	breached downtrend	bauxite
Australian Potash	APC	■	continuing down	potash
Australian Mines	AUZ	■	gentle uptrend commenced	cobalt/nickel
Australian Vanadium	AVL	■	down	vanadium
Avanco Resources	AVB	■	nudging resistance line	copper
AWE	AWE	■	breached downtrend	oil and gas
Azure Minerals	AZS	■	sideways through downtrend	silver
BHP	BHP	■	short term uptrend	diversified
Base Resources	BSE	■	breaching uptrend	mineral sands
Bathurst Resources	BRL	■	continuing higher	coal
Battery Minerals	BAT	■	reached resistance line	graphite
Beach Energy	BPT	■	breached steepest downtrend	oil and gas
Beadell Resources	BDR	■	new low	gold
Berkeley Resources	BKY	■	testing downtrend	uranium
Berkut Minerals	BMT	■	new low	cobalt
Blackham Resources	BLK	■	slump to new low	gold
Broken Hill Prospect.	BPL	■	breached downtrend	minerals sands, cobalt
Buru Energy	BRU	■	sideways at lows	oil
Canyon Resources	CAY	■	new low	bauxite
Cardinal Resources	CDV	■	breaching uptrend after placement	gold exploration
Carnegie Clean Energy	CCE	■	testing uptrend	wave energy
Cassini Resources	CZI	■	breached uptrend	nickel/Cu expl.
Chalice Gold	CHN	■	holding uptrend	gold
Cobalt One	CO1	■	rally on change of name (from Equator)	cobalt
Cobalt Blue	COB	■	down	cobalt
Comet Resources	CRL	■	sideways near highs	graphite/graphene
Consolidated Zinc	CZL	■	downtrend	zinc
Corizon Mining	CZN	■	breached downtrend	cobalt
Crusader Resources	CAS	■	breached downtrend	gold/iron ore
Dacian Gold	DCN	■	breached downtrend	gold exploration
Danakali	DNK	■	still in uptrend	potash
Doray Minerals	DRM	■	back in downtrend	gold
Duketon Mining	DKM	■	new low	nickel
Eden Innovations	EDE	■	breached short term downtrend	carbon nanotubes in concrete
Emerald Resource	EMR	■	sideways	gold
Energia Minerals	EMX	■	fallen out of bed	zinc
Evolution Mining	EVN	■	ST down, within LT uptrend	gold
Excelsior Gold	EXG	■	testing uptrend	gold
Finders Resources	FND	■	LT uptrend	copper

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First Australian	FAR	testing uptrend	oil/gas
First Graphite	FGR	breached first downtrend, resistance at 9c	graphite
Fortescue Metals	FMG	testing resistance line	iron ore
Galaxy Resources	GXY	faltered at resistance	lithium
Galilee Energy	GLL	down	oil and gas, CBM
Gascoyne Resources	GCY	breached uptrend	gold
Geopacific Res. Resources	GPR	rallying	copper/gold exp.
Global Geoscience	GSC	breaking out through resistance	lithium
Gold Road	GOR	uptrend continuing	gold exploration
Graphex Mining	GPX	new low then strong recovery	graphite
Heron Resources	HRR	drifting lower	zinc
Highfield Resources	HFR	continuing down	potash
Highlands Pacific	HIG	down	copper, nickel
Hillgrove Resources	HGO	back to highs	copper
Iluka Resources	ILU	surged higher	mineral sands
Image Resources	IMA	testing uptrend	mineral sands
Independence	IGO	sideways	gold, nickel
Intrepid Mines	IAU	sideways	copper
Karoo Gas	KAR	breached support line	gas
Kibaran Resources	KNL	testing downtrend	graphite
Kin Mining	KIN	surge on gold discovery announcement	gold
Legend Mining	LEG	sideways	exploration
Lithium Australia	LIT	pullback after breakout	lithium
Lucapa Diamond	LOM	down	diamonds
Macphersons Res.	MRP	downtrend	silver
Medusa Mining	MML	downtrend	gold
MetalsX	MLX	LT uptrend in play	tin, nickel
Metro Mining	MMI	sideways to higher	bauxite
Mincor Resources	MCR	new uptrend	nickel
Mineral Deposits	MDL	on support line	mineral sands
Mustang Resources	MUS	breached downtrend	diamonds, rubies
MZI Resources	MZI	down	mineral sands
Northern Minerals	NTU	down	REE
Northern Star Res.	NST	breached uptrend	gold
NTM Gold	NTM	breached uptrend	gold
Oceana Gold	OGC	down after steep fall	gold
Oklo Resources	OKU	new high	gold expl.
OreCorp	ORR	down	gold development
Orinoco Gold	OGX	breached downtrend	gold development
Orocobre	ORE	under longer term downtrend	lithium
Oz Minerals	OZL	breached downtrend	copper
Pacific American Coal	PAK	down	coal, graphene
Pantoro	PNR	new high	gold
Panoramic Res	PAN	downtrend	nickel
Peel Mining	PEX	pullback	copper
Peninsula Energy	PEN	down	uranium
Perseus Mining	PRU	new low	gold
Pilbara Minerals	PLS	hugging downtrend line	lithium/tantalum
PNX Metals	PNX	down	gold, silver, zinc
Red River Resources	RVR	holding longer term uptrend	zinc
Regis Resources	RRL	confirming uptrend	gold
Resolute Mining	RSG	still going lower	gold
Reward Minerals	RWD	new low	potash
RIO	RIO	recovery	diversified

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RTG Mining	RTG		breached downtrend	copper/gold
Salt Lake Potash	SO4		down	potash
Saracen Minerals	SAR		holding long term uptrend	gold
St Barbara	SBM		heading down	gold
Sandfire Resources	SFR		breaching downtrend	copper
Santana Minerals	SMI		back in downtrend	silver
Santos	STO		under long term support line	oil/gas
Sheffield Resources	SFX		still in downtrend	mineral sands
Silver Lake Resources	SLR		heavy fall	gold
Silver Mines	SVL		down again	silver
Sino Gas & Energy	SEH		down	gas
Southern Gold	SAU		resuming uptrend	gold
Stanmore Coal	SMR		breaching long term support	coal
Sundance Energy	SEA		down	oil/gas
Syrah Resources	SYR		strong rise	graphite
Talga Resources	TLG		spike then pullback	graphene
Tanami Gold	TAM		short term down	gold
Tempo Australia	TPP		breached downtrend	mining services
Teranga Gold	TGZ		strong rally	gold
Tiger Realm	TIG		breached downtrend	coal
Tiger Resources	TGS		suspended	copper
TNG Resources	TNG		testing short term downtrend	titanium, vanadium
Torian Resources	TNR		new low	gold expl'n
Toro Energy	TOE		breached first downtrend	uranium
Troy Resources	TRY		testing downtrend	gold
Tyranna Resources	TYX		down	gold exploration
Vango Mining	VAN		uptrend	gold
Vimy Resources	VMY		testing downtrend	uranium
West African Resources	WAF		strong rise	gold
Westwits	WWI		slump	gold exploration/development
Western Areas	WSA		new uptrend	nickel
White Rock Minerals	WRM		down	silver
Whitehaven Coal	WHC		gently higher	coal
WPG Resources	WPG		still down	gold
Wolf Minerals	WLF		down	tungsten
Totals	23%	34	Uptrend	
	48%	70	Downtrend	
		147	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

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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	34	23.1%	
Copper	12	8.2%	
Gold Exploration	14	9.5%	
Coal	10	6.8%	
Oil/Gas	9	6.1%	
Potash/Phosphate	6	4.1%	
Mineral Sands	7	4.8%	
Graphite	7	4.8%	
Silver	6	4.1%	
Zinc	6	4.1%	
Lithium	5	3.4%	
Nickel	5	3.4%	
Uranium	4	2.7%	
Cobalt	4	2.7%	
Tin	2	1.4%	
Bauxite	3	2.0%	
Diamonds	2	1.4%	
Iron Ore	1	0.7%	
Other	10		
Total	147		

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