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FAR EAST CAPITAL
The Mining Investment Experts

Weekly Commentary

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Chart comments as at Friday's Close

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Rumble's Earaheedy Zinc Project is Looking Bigger and Better

We have had another week of rising interest rates, falling equity markets, a rising US$ and falling commodity prices. Nevertheless, the silver lining for the resource sector is the ability for our currency to fall relative to the US$, thereby providing a stabilising effect on real A$ prices being received. Australian gold producers are still getting around A$2,500/oz.

It seems as if the Fed is determined to expunge inflation through the strangulation method of higher interest rates that will bring on a recession. This is the easiest, no brainer method to suppress the economy. However, we need to consider what has been the cause of the inflation. The obvious answers are the Ukraine War and its impact on energy prices, with Covid related impacts also interrupting supply lines of materials and labour; but how do higher interest rates help to increase supply? The answer is that they don't.

This is inflation caused by supply shortages rather than excessive demand. A recession will reduce demand but how does it help increase supply? It doesn't. It seems that the cure isn't tailor made to the disease.

Governments need to remove obstacles to supply but they seem more interested in pandering to the concept of inclusion and the minority interest groups that cry "*what about me*", be they indigenous, race-related, gender-based or extra-sexual. The rest of us - the majority - just look on, dumbfounded. Democracy is failing us.

When we look specifically at energy supply, we can see that the irrational imperative to achieve green energy at breakneck speed is a strong contributing factor to higher energy prices. Reducing the supply of hydrocarbon energy sources is starting to bite as many new projects have been shelved.

The global economy is starting to pay the price that was always going to bite us as emotional arguments have superseded common sense. Alternative energy is wonderful, but it should be pursued in a balanced fashion along with traditional hydrocarbon and nuclear sources. The lack of balance is a contributor to the current bout of inflationary disruption, and there is no obvious end in sight.

So, what news flow will cause markets to rally, or even recover? The best news we can get will be the slowing of economies i.e. a recession, that will allow the interest rate rises to subside. The sooner we bring on the pain the sooner we can recover.

Rumble is optimising and expanding horizons

It is now about 18 months since Rumble Resources (RTR) first announced the discovery of the very large Earaheedy zinc discovery (RTR 75%, ZNC 25%), 100 km NNE of Wiluna in WA. Even though Rumble has completed 70,000m of drilling, we haven't seen a maiden resource statement yet. However, the Company has released an Exploration Target of 100-120 Mt at 3.5-4.5% Zn in a shallow, flat lying zone of mineralisation that extends for 13 km of strike.

Interpretation of the geological style is changing

Given the size of the area we should not be surprised to see some twists and turns as Rumble works towards a better understanding of the system. The initial discovery on the Chinook location was first thought to be a SEDEX-style discovery but the thought processes have evolved since then. The geologists are thinking it is more akin to the Irish-style carbonate-hosted zinc-lead deposits that are a hybrid of SEDEX and Mississippi Valley-type (MVT) deposits. The deposit does not have a direct analogue but it has some strong geological affinities to the Silesian zinc dominant deposits in Poland that has seen production + reserves of ~700 Mt @ 4% Zn, 2% Pb, and the Pine Point deposit(s) in Canada, comprising more than 80 bodies of zinc/lead mineralisation over a trend 65 km x 24 km. Another is Pering, in South Africa.

Positive implications for flow sheet and economics

The style of deposit has implications for metallurgy and the process flow sheet. As an example, the Century SEDEX deposit in Queensland cost in the order of US$2bn to develop. Operating costs were high due to the requirement to first grind the ore to 35 μm, and then regrind to 7 μm.

In contrast, it looks like Earaheedy will not need the very fine grinding as the sphalerite is coarse and easily liberated with perhaps a 120 μm primary grind size. That means faster kinetics and smaller flotation cells that can work with abundant saline process water. Both capital and operating costs could be be significantly lower in the production of a bulk zinc concentrate.

Also, the coarse particle size may lend itself to beneficiation via dense media separation and/or sensor ore sorting to achieve an upgrade of 3-4x. Analogue examples show up to 80% waste removal before going into the mill; more cost savings.

Coming up with higher grade feeder zones

Most of the drilling to date has been into a relative flat-lying deposit with an impressive TPVM number. The extensive faulting has shunted the body closer to the surface for an extended length. This makes it amenable to open pit mining, accessible via free digging through a soft, oxidised covering iron sequence with thicknesses of 20-50m. Interestingly, more recent drilling has been hitting higher grade feeder zones that could support deeper underground mining.

The Bottom Line - this is a giant project

When I was listening to the presentation I couldn't help but feel this is a truely giant size, company-making project with many dimensions over what promises to be a very long life project. It is not just about one deposit. It is a regional play with many dimensions across a number of commodities.

Great mining houses are built on this scale of project. The current market capitalisation of $180m makes it a candidate for institutional shareholders, but maybe the more conservative ones will wait until mid 2023, when the maiden JORC resource statement is expected.

Disclosure: Interests associated with the author own options in Rumble.

A new concept in reporting widths

We should all be aware that you need to look beyond reportings of raw, downhole drill intercepts alone. The most obvious trap is where a down-dip intercept gives a misleading impression of the width of an orebody i.e. what is geometrically mineable on horizontal levels as you slice through the orebody. That is why geologists will often calculate the “true width”. Often this is 60-70% of the down-hole width, depending upon the angle at which the hole is drilled.

Recently we saw a company release new intercept terminology that is even more informative. It is not something we have seen previously, but it is worthwhile giving some thought; mineable cut-off grade (MCOG).

MCOG introduces economics to the equations rather than just physical measurements. This is more exacting that a generic cut-off grade that is used for resource calculation. Depending on the style of orebody, a cut-off could be anything from 0.3 gpt for open pits, to 3-5 gpt for underground mines. Anything below the selected cut-off grade is excluded or assumed to be barren.

So, when a company reports a MCOG, it is already telling us something about whether or not the result is economically viable. It is ignoring general mineralisation that might carry gold but which is not economic to mine. It is taking the description beyond geology and into the realms of engineering.

Nagambie Resources is the company that introduced this concept when it reported the high-grade gold and stibnite veins at the Nagambie mine. Not only did it give the raw AuEq gpt figure, but it also stated the multiple over the cut-off grade needed to make it economically mineable, in that location.

Here, the minimal mineable width is believed to be 1.2m based on the economics of the nearby Costerfield Mine. That means any gold intercept needs to be extended out to this width, with whatever dilution and average grade calculation this introduces.

Nagambie gives an idea of the potential profitability of mining individual veins by supplying a multiple of the MCOG. As an example, the intercept of NAD008 C1 vein over 1.2m was 10.3 gpt, which is 3.4x the Mineable Cut off Grade.

Introducing this reporting standard throughout the sector would be too arduous for geologists as it would require some understanding of economics, and this is not a strong suite for geologists. They are more concerned with geological structures than mining parameters, leaving this pointy end of the assessment to mining engineers. This is in itself instructive as to how much faith should be put in early drill data.

Nevertheless, MCOG is an interesting approach that gives additional depth of information in situations where there are cohesive parameters around an orebody e.g underground veins. This is unlikely to be the case where it is a broad, disseminated open pit orebody.

Disclosure: Interests associated with the author own shares in Nagambie snd FEC has received capital raising fees.

Richmond Vanadium Technology to IPO

Some time ago, when I was reviewing the outlook for a number of prospective vanadium companies, I expressed a bias for South African-based projects due to that country’s experience and the observation that all of the Australian projects over the last 50 years had failed. I was dismissive of the low-grade vanadium deposits in Western Queensland as I had been seeing these come on and go off the radar many times without any lasting effect. However, it is time to modify and even reverse this scepticism due to the simplicity and the low cost structure. Richmond’s project looks potentially very profitable. I am looking forward to seeing the prospectus.

Finding rare earths is not difficult

The ease by which explorers can come up with a rare earths prospect was demonstrated by Indiana Resources last week. That company announced that it had re-assayed aircore holes drilled for gold in 2021, into near surface kaolinite clays overlying weathered granitic bedrock (saprolite). It emphasised the proportion of MREOs (magnetic rare earths), predominantly Terbium (Tb), Dysprosium (Dy), Neodymium (Nd) and Praseodymium (Pr) being up to 52% on contained TREOs. This latest release refers to the final 36 holes of a 79 hole aircore program, sampled in 4m composite.

Assays continue to confirm the widespread REE mineralisation, returning up to 5,290 ppm TREO and 2,775ppm MREO. Intersections up to 76m thick were recorded with high proportions of the valuable magnet REEs. Typical intercepts were 33m @ 1,218ppm TREO from 44m,19m @ 2,166ppm TREO from 36m and 40m @1,178ppm TREO from 48m.

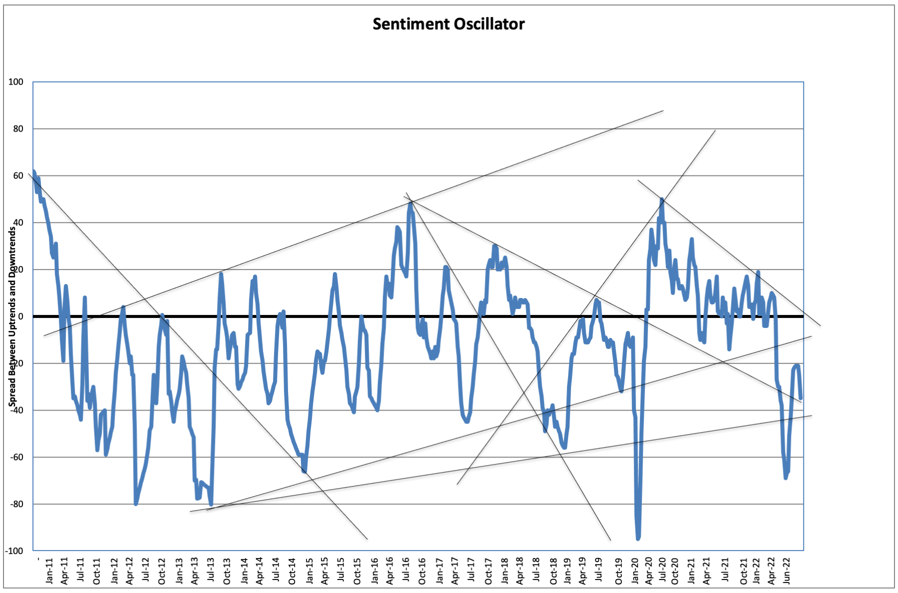
Garnet Project Looks Good for Heavy Minerals

Heavy Minerals (HVY) has released a positive scoping study for the Port Gregory Garnet Project near Geraldton in WA, but that has not prevented the share price coming down to a new low. Maybe the resignation of the CEO has contributed to the weakness in the price.

The headline numbers (to +/- accuracy of 35%), show a $110m capex, a 4.2 year payback and an IRR of 33% with a 16 year mine life. The NPV has been calculated as $253m, which is dramatically greater than the current $5m market capitalisation. What is that telling us?

Perhaps we can draw a parallel with Target Minerals, a successful garnet producer in the same region. When that was ASX-listed in the 1980s, generating strong cash flow and profits, the market wasn’t very interested. The major shareholders privatised the company on cheap fundamentals and did very well for themselves.

Why is the market uninterested in fundamentally strong businesses like garnet producers? Maybe because not enough people know about garnets. Maybe it is because industrial minerals are not sexy and stock market punters are more interested in feeling the wind in their hair as they go up and down the roller coaster. Whatever, eventually this company and its project will end up with value seeking investors. It will probably be the party that arranges the financing.



Sentiment Oscillator: Sentiment was slumped over the week. There were 19% (22%) of the charts in uptrend and 47% (54%) 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		down	
Metals and Mining	XMM		still in downtrend	
Energy	XEJ		drifting lower	
Information Technology	XIJ		down	
Stocks	**Code**		**Trend Comment (updated comments in bold)**	**Main Interest**
A-Cap Energy	ACB		on support line	uranium
Alpha HPA	A4N		breached downtrend	HPA
Adriatic Resources	ADT		approaching resistance line	zinc, polymetallic
Advance Metals (was Pacific American)	AVM		down	coal, gold exploration
Alkane Resources	ALK		testing downtrend	gold
Alicanto Minerals	AQI		new low	base metals, silver, gold
Altech Chemical	ATC		strongly higher	HPA, anodes
Anteotech	ADO		new low	silicon anodes, biotech
Alto Metals	AME		at resistance	gold exploration

American Rare Earths	ARR		fallen back to resistance line	rare earths
Antilles Gold	AAU		still down	gold
Arafura Resources	ARU		good bounce	rare earths
Ardea Resources	ARL		testing support	nickel
Aurelia Metals	AMI		new low	gold + base metals
Australian Potash	APC		sideways through downtrend	potash
Australian Rare Earths	AR3		at lows	rare earths
Auteco Minerals	AUT		recovering	gold exploration
Arizona Lithium	AZL		failed at resistance line	lithium
Azure Minerals	AZS		failing at resistance line	nickel exploration
BHP	BHP		back to lows after dividend payment	diversified, iron ore
Beach Energy	BPT		new uptrend confirmed	oil and gas
Bellevue Gold	BGL		breached downtrend	gold exploration
Benz Mining	BNZ		breached downtrend	gold
Black Cat Syndicate	BC8		breaching uptrend	gold
Blue Star Helium	BNL		sideways through downtrend	gas, helium
BMG Resources	BMG		down	gold exploration
Boab Metals	BML		failed at resistance line	silver/lead
Breaker Resources	BRB		testing downtrend	gold exploration
Buru Energy	BRU		gently lower	oil
Calidus Resources	CAI		new low	gold
Capricorn Metals	CMM		back into downtrend	gold
Caravel Minerals	CVV		at resistance	copper
Castile Resources	CST		down	gold/copper/cobalt
Celsius Resources	CLA		sideways at lows	copper
Chalice Mining	CHN		down	nickel, copper, PGMs, gold exploration
Chesser Resources	CHZ		new low	gold exploration
Cobalt Blue	COB		on support line	cobalt
Cyprium Metals	CYM		new low	copper
Dateline	DTR		down	rare earths
De Grey	DEG		breaching resistance line	gold
E2 Metals	E2M		new uptrend commenced	gold exploration
Ecograf	EGR		falling again	graphite
Element 25	E25		new uptrend commenced	manganese
Emerald Resources	EMR		trying to recapture uptrend	gold
Empire Energy	EEG		testing uptrend	gas
Euro Manganese	EMN		breached new uptrend	manganese
Evolution Mining	EVN		new low	gold
Firefinch	FFX		suspended	gold
First Graphene	FGR		breached downtrend	graphene
Fortescue Metals	FMG		failed at resistance line	iron ore
FYI Resources	FYI		sideways through downtrend	HPA
Galena Mining	G1A		testing steepest downtrend	lead
Galilee Energy	GLL		softer	oil and gas, CBM

Genesis Minerals	GMD		down	gold
Genmin	GEN		rising	iron ore
Gold Road	GOR		breached downtrend	gold
Great Boulder Resources	GBR		but approaching resistance line	gold exploration
Hastings Technology Metals	HAS		heavy fall	rare earths
Hazer Group	HZR		still in downtrend	hydrogen
Heavy Minerals	HVY		still in downtrend	garnet
Highfield Resources	HFR		new low	potash
Hillgrove Resources	HGO		down	copper
Iluka Resources	ILU		testing resistance line	mineral sands
Image Resources	IMA		down	mineral sands
ioneer (was Global Geoscience)	INR		testing resistance line	lithium
Ionic Rare Earths	IXR		rising again	rare earths
Jervois Mining	JVR		breached downtrend	nickel/cobalt
Kaiser Reef	KAU		recovering from lows	gold
Kingston Resources	KSN		improving	gold
Krakatoa Resources	KTA		rising	rare earths
Kingfisher Mining	KFM		down	rare earths
Kingwest Resources	KWR		new low	gold
Legend Mining	LEG		new low	nickel exploration
Lepidico	LPD		back to lows	lithium
Lindian Resources	LIN		another new high	bauxite
Lion One Metals	LLO		down	gold
Los Cerros	LCL		new uptrend breached	gold exploration
Lotus Resources	LOT		sideways through downtrend	uranium
Lucapa Diamond	LOM		new uptrend forming, but struggling	diamonds
Lunnon Metals	LM8		on support line	nickel
Lynas Corp.	LYC		down	rare earths
Magnetic Resources	MAU		new low	gold exploration
Mako Gold	MKG		failed at resistance line	gold exploration
Marmota	MEU		sideways	gold exploration
Marvel Gold	MVL		new low	gold exploration
Matador Mining	MZZ		new low	gold exploration
Mayur Resources	MRL		strong rise from lows	renewables, cement
Meeka Gold	MEK		surge on drill results -capital raising	gold
Megado Gold	MEG		back to downtrend	rare earths, gold exploration
MetalsX	MLX		new low	tin, nickel
Metro Mining	MMI		slump out of new uptrend with a placement	bauxite
Mincor Resources	MCR		recovering from lows	gold/nickel
Mithril Resources	MTH		down	gold/silver
Musgrave Minerals	MGV		testing downtrend	gold exploration
Nagambie Resources	NAG		stronger	gold, antimony
Neometals	NMT		rising	lithium
Northern Star Res.	NST		strong rise	gold

Nova Minerals	NVA		down again	gold exploration
Orecorp	ORR		at lows	gold development
Oz Minerals	OZL		new high on BHP takeover moves	copper
Pantoro	PNR		new low	gold
Panoramic Res	PAN		down	nickel
Peak Resources	PEK		rising	rare earths
Peel Mining	PEX		breached steepest downtrend	copper
Peninsula Energy	PEN		sideways	uranium
Poseidon Nickel	POS		still down	nickel
Perseus Mining	PRU		down	gold
Provaris Energy	PV1		rising	hydrogen
PVW Resources	PVW		breached downtrend	rare earths
QMines	QML		new low	copper
Queensland Pacific Metals	QPM		sideways	nickel/cobalt/HPA
Red River Resources	RVR		new low	zinc
Regis Resources	RRL		down	gold
Renergen	RLT		down	gas, helium
Resource Mining Corp.	RMI		sideways	nickel exploration
RIO	RIO		new low	diversified, iron ore
Rumble Resources	RTR		secondary downtrend	gold exploration
S2 Resources	S2R		sideways	gold exploration
St Barbara	SBM		down	gold
Sandfire Resources	SFR		heavy fall	copper
Santos	STO		uptrend	oil/gas
Saturn Metals	STN		down	gold exploration
Silex Systems	SLX		new high	uranium enrichment technology
Silver Mines	SVL		down	silver
South Harz Potash	SHP		still in downtrend	potash
Southern Cross Gold	SXG		down	gold exploration
Stanmore Coal	SMR		surge higher	coal
Strandline Resources	STA		strong rise	mineral sands
Sunstone Metals	STM		downtrend	exploration
Talga Resources	TLG		testing steepest downtrend	graphite
Technology Metals	TMT		down	vanadium
Tesoro Resources	TSO		new low	gold exploration
Theta Gold Mines	TGM		strong rise from lows - at resistance	gold
Thor Mining	THR		sideways through downtrend	gold exploration
Tietto Minerals	TIE		breaching downtrend	gold
Turaco Gold	TCG		bouncing from lows	gold exploration
Vanadium Resources	VR8		testing downtrend	vanadium
Venture Minerals	VMS		down	tin, tungsten
West African Resources	WAF		down	gold
Westgold Resources	WGX		down	gold
West Wits Mining	WWI		new low	gold

Whitehaven Coal	WHC		new high	coal
Yandal Resources	YRL		new low	gold exploration
Zenith Minerals	ZNC		breached steepest downtrend	gold exploration
Zinc Mines of Ireland	ZMI		new low	zinc
Totals	19%	27	Uptrend	
	54%	79	Downtrend	
		145	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	**32**	**22.1%**	
Gold Exploration	**22**	**15.2%**	
Rare Earths	**12**	**8.3%**	
Nickel	**11**	**7.6%**	
Copper	**9**	**6.2%**	
Oil/Gas	**8**	**5.5%**	
Iron Ore/Manganese	**6**	**4.1%**	
Zinc/Lead	**5**	**3.4%**	
Lithium	**4**	**2.8%**	
Uranium	**4**	**2.8%**	
Graphite/graphene	**3**	**2.1%**	
Potash/Phosphate	**3**	**2.1%**	
Coal	**3**	**2.1%**	

Mineral Sands	**3**	**2.1%**	
Silver	**2**	**1.4%**	
Bauxite	**2**	**1.4%**	
Vanadium	**2**	**1.4%**	
Cobalt	**1**	**0.7%**	
Tin	**2**	**1.4%**	
Diamonds	**1**	**0.7%**	
Other	**10**		
Total	**145**		

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