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FAR EAST CAPITAL
The Mining Investment Experts

Weekly Commentary

10 June 2023 *Chart comments at Friday's close* Analyst : Warwick Grigor

Inflation doesn't stand still. The 5EA assessment

In one of my previous Weeklies I said that we need to get used to inflation, believing it is going to be around for some time. One of the reasons for saying this is that inflationary pressures and characteristics within the economy will change. It will take on different features and have different causes and effects as it gradually infiltrates all aspects of our society. The inflationary virus affects different people in different ways. Some will be immune and even make money out of it, whereas others will only suffer.

We started out with inflation caused by supply shortages, particular those relating to energy supply. Shortage of labour (or those willing to work) was another early problem. Now, moving on from supply chain issues, we are starting to see wage increases taking hold. Once this gets entrenched it becomes very difficult to manage inflationary expectations, especially if it is a Labor Government that is ideologically mandated to improve the plight of the workers. It becomes more than just a catch up when inflationary expectations cause workers to want bigger increases to account for anticipated inflation.

Back in the 1980s and early 1990s, inflation was overcome through changing the way it was calculated (typically government deception tactics) and with Paul Keating's "*recession we had to have*". It wasn't pretty. Property prices collapsed to such an extent that the banks were in trouble. Westpac Bank almost went broke. Can this happen again? Most definitely, but not just now. The Federal Government and the Reserve Bank will try and purge inflation nicely, but they will probably find that this doesn't work. If we are going to have to put up with inflation for a number of years, because the medicine is too hard to take, we had better figure out how we can make money out of it.

1. 5EA is an aspiring industrial minerals co.

5EA released an Updated Initial Assessment Report on 11 May 2023, being a technical paper supporting its strategy to become a globally integrated supplier of boric acid, lithium carbonate and advanced boron derivatives. It is based on the Fort Cady resource in the Mojave Desert, 118 miles NE of Los Angeles, California. It is 75 miles ESE of RIO's Borax operation in Boron, California.

Key assumption in the model

The revised economic model calculated a NPV of US$2.4bn and an IRR of 22.6%. Earlier (2018) key assumptions, that may need updating, were;

- In-situ Leaching (IS) mining to deliver 7% boric acid in solution
- 81.9% recovery into solution
- 92% recover to saleable boric acid powder
- opex of US$686 pt of boric acid produced

Project history of Fort Cady

The Fort Cady deposit was first discovered in 1964. Then, in the late 1970s, Duval drilled 34 holes. Subsequent test work by Duval confirmed that it was amenable to ISL recovery methods. A number of subsequent parties also conducted pilot ISL trials. In 1987/88, approximately 500 tonnes of boric acid were produced. State and local government approvals for commercial scale operations were achieved. Another 2,200 tons of synthetic colemanite product were produced, but low prices prevented the progression to a commercial operation.

Australian investors entered the fray in 2017, believing that the boron market had similar dynamics to the lithium market a decade earlier. They acquired Fort Cady and completed an IPO on the ASX. A subsidiary named 5E was incorporated and this was listed as 5EA Advanced Materials on NASDAQ in 2022. The vast majority of shareholders continue to be Australian investors holding CDIs.

Geology and resources

Mineralisation occurs in a sequence of lacustrine lakebed sediments ranging in depths from 1,300 ft to 1,500 ft below ground surface. The boron is hosted in colemanite, a hydrated calcium borate mineral, along with lithium. The deposit is 2.1 miles long and 0.6 miles wide, ranging in thickness from 70 to 262 feet, in four distinct horizons.

Measured, Indicated and Inferred Resources have been calculated at 96.9 Mt, containing 4 Mt of boric acid and 0.3 Mt of lithium carbonate equivalent.

Extracting via in-situ mining

In-situ mining techniques will be employed using a weak hydrochloric acid in solution, with the resulting leachate being processed to produce 90,000 stpa of boric acid, along with lithium carbonate and gypsum co-products, in the first phase. An initial 9,000 stpa plant has already been constructed in the first instance before committing to Phase 1, which was expected to cost US$373m.

5EA has selected crystallisation as the method for recovering H_3BO_3 from solution as it is a proven process and can be operated on a continuous basis with 87% plant availability. It will operate at 60^{0}C in a vacuum. The acid will be recycled for use in the mine. Other aspects of the process route are in use elsewhere in industry, so there doesn't seem to be any great technical risk.

The boron market and tight supply

The global boron market is valued at US$4.6bn with a compound growth rate of 4% p.a. from 2016 to 2020. Traditionally boron uses include borosilicate glass and textile fiberglass, insulation, ceramics, specialty fertilisers and biocides for the agricultural industry, detergents, fire retardants, and wood preservatives More inspirational new applications for boron include its use for:

- permanent magnets used in electric vehicles and re-chargeable electrical/battery equipment,
- semi-conductors and electronics,

- green energy/decarbonisation in wind turbines, nuclear energy, and solar cells, and
- military vehicles and armour.

An interesting feature of the boron market is that 80-85% of supply is controlled by two companies. The Turkish Government company, Eti Maden, supplies over 60% of the market. Turkey has 73% of world reserves of boron. The other big player is US Borax, a subsidiary of RIO. US Borax is operating at full capacity with current reverves supporting production until 2042.

5EA's project (5E Boron Americas Complex) is one of the only permitted boron resources with a proven commercially viable mineralisation (calcium-based) that is likely to add meaningful supply in the next 5-7 years. The project is also the first visible new source of Boron to come online in the last 100 years globally It is eventually targeting a 10% market share. As a US-based producer, 5EA is positioned to secure both domestic and strategic global supply chains for boric acid and other key boron derivatives that require boric acid.

5EA has multiple signed non-binding letters-of-intent and/or proposal letters with terms agreed in principle which could result in definitive off-take agreements for multi-year supply.

The Bottom Line - Still pre-development

5EA is still in the lead-up phase to full scale development, having constructed an initial facility before locking in on the design and parameters for development of Phase 1 of a commercial operation. Hence we describe it as pre-development and it has all of the usual caveats that come with financing, construction and commissioning risks. There doesn't seem to be anything that is innovative or technically risky that isn't manageable, but that of itself doesn't guarantee success. Management's ability to be adaptive to unexpected surprises is always a necessary quality.

The boron sector thematic makes for a good story. Once entrenched in the sector, 5EA could be a long term profit earner but first it has to successfully operate a start-up plant (see figure below), then progress to Phase 1 at 90,000 stpa capacity, then expand further. It will need sales contracts and progressive funding of much more than the first US$400m plus. The Company is currently pursuing a funding strategy for Phase 1 which includes at least half of the required capital expense from U.S. government debt, through the dept of energy and defence, with equity options for the remaining half.

The market obviously got ahead of itself, being wild with enthusiasm a long time before the Company was in a position to deliver on its ambitions. It seems that the NASDAQ listing and the implications for the share price had become the most dominant theme. Now that is in the rear vision mirror, for better or worse, 5EA is all about developing a potential profitable long-term industrial minerals business in boron and related products. It is time to reset expectations with that in mind, in the absence of over-speculation, and wait while the long term growth profile progresses.

2. Voltaic has had a dream run

Since we wrote up Voltaic back on 22 April, the share price has bucked the trend. Back then the share price was 2¢, giving a modest market capitalisation of $8.2m. It has recently traded at 10.5¢, meaning a capitalisation of $50m after completion of tranche one of the placement. It has been an example of good speculative stock selection within an otherwise very boring market.

News flow has been running thick and fast, along with the share price. Interestingly, the shares rose aggressively on the release of drill widths alone at the Ti Tree Project. The market didn't wait for assays, being happy to buy the shares on pegmatite intercepts of up to 58m.

Taking advantage of the run to 8.1¢ in intraday trading, the Company quickly went into a trading halt for a $7m, two tranche placement at 5¢ with RM Capital being the Lead Manager. Ordinarily, it would be a bold move to do a placement like this before assays were received, but there was obviously a risk preferring broker willing to have a go. At the time of writing the assays still haven't been reported, but the Company is nonetheless commencing a Phase 2 drilling program of another 24-30 holes targeting the lithium-caesium-tantalum pegmatites.

A two tranche placement normally means that a share price will be constrained until the completion of the second tranche, due to the simple reason of short term oversupply of scrip to the market. It requires patience, which is always in short supply in the stock market. However, Voltaic once again bucked the trend with an announcement of a rare earth system in clays at the Neo prospect, at Paddy's Well in WA. An intercept of 78m at 1,001 ppm TREO was notable for its size, with some smaller intervals at good grade within that. Though, the highlight of 1m at 10,072 ppm TREO should be discounted as being meaningless within the total population. It is casually interesting and a useful promotional point for the uninitiated.

Interpreting what all this means

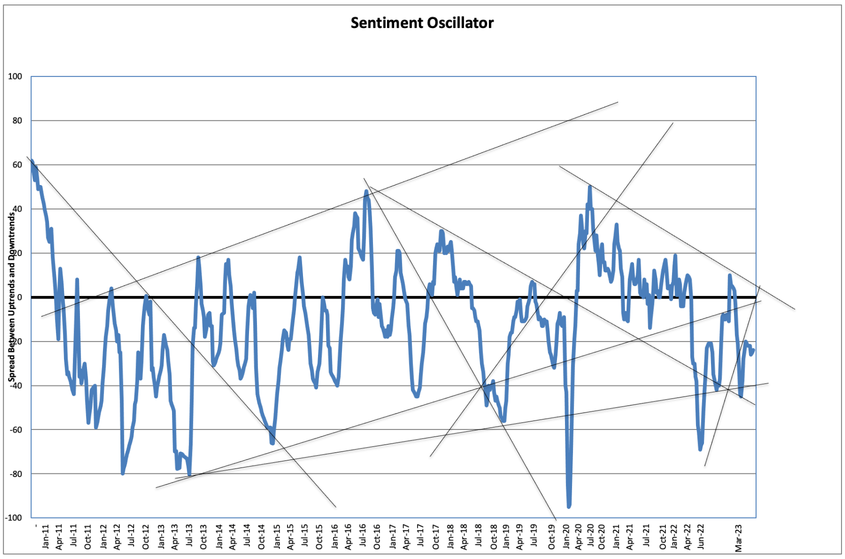
Voltaic has delivered promising first pass exploration results from lithium bearing pegmatites, and separately a rare earths clay discovery. That is exactly what the market wants but it is joining a crowded field. Without detracting from the results so far, what is most notable is the way Voltaic has reported the results to the market, being worded in such a way as to inspire the punters and a broker to strongly back the Company. The releases have not been over technical and as such, they were easily understood by the market. Perhaps there is a lesson here for other companies.

The shares ran from a level where they were clearly under appreciated in the market. That is why we covered them back in April. The share price performance since then has been wonderful with a 500% increase. The questions to ask now are "*where do they go from here*?" and "*is the share price sustainable?*" given the injection of hot air and the impending extra stock coming out on completion of the second tranche. It all depends on how long the enthusiasm can be maintained and to a lesser extent, what the reported assays will be. It is a great example of why we punt the market.

3. Climate change vitriol has gone to the dogs

The obsession with climate change is becoming more and more like McCarthyism every day. Back in the late 1940s and early 1950s, just suggesting that a person was a communist was the best way to throw a cat amongst the pigeons. It was both a way to deflect attention from oneself, whilst causing pain for targeted third parties. In a similar way there is a blame game going on in accusations of responsibility for carbon emissions, with double standards and hypocrisy being no obstacle to facts and truth. The Editorial in The Australian today said that there have been studies that show that "*the annual carbon footprint of a family dog can match that of a car*". Is this just an example of how ridiculous the obsession with carbon emissions has become? Even if it is true - and I'm yet to see a credible examination of the facts - at what point do you call a halt to the sort of zealousness that would do Arthur Miller (The Crucible) or Senator McCarthy proud?

We have added Southern Palladium (SPD), Vintage Energy (VEN) and Voltaic Strategic to the chart coverage, and deleted PVW Resources (PVW).



Sentiment Oscillator: Sentiment was steady last week with the market not giving any clues as to its preferred direction. . There were 25% (24%) of the charts in uptrend, and 49% (49%) 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. 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		falling in a broad triangle	
Metals and Mining	XMM		testing downtrend	
Energy	XEJ		down	
Information Technology	XIJ		strongly higher	
Stocks	**Code**		**Trend Comment (updated comments in bold)**	**Main Interest**
5EA Advanced Materials	5EA		down	boron
92 Energy	92E		testing downtrend	uranium
A-Cap Energy	ACB		new low	uranium
Alpha HPA	A4N		new high	HPA

Adriatic Resources	ADT		new high	zinc, polymetallic
Advance Metals (was Pacific American)	AVM		back to lows	coal, gold exploration
Alkane Resources	ALK		off its high	gold
Alicanto Minerals	AQI		sideways at lows	base metals, silver, gold
Almonty Industries	AII		sideways	tungsten
Altech Chemical	ATC		failing at resistance line	HPA, anodes
Anteotech	ADO		breached downtrend	silicon anodes, biotech
Alto Metals	AME		at lows	gold exploration
American Rare Earths	ARR		breached support line	rare earths
Antilles Gold	AAU		rising	gold
Anax Metals	ANX		sideways below 8c	copper
Arafura Resources	ARU		down	rare earths
Ardea Resources	ARL		new low	nickel
Aurelia Metals	AMI		back to lows	gold + base metals
Australian Rare Earths	AR3		heavy correction on placement	rare earths
Arizona Lithium	AZL		new low	lithium
Azure Minerals	AZS		rising again	nickel exploration
BHP	BHP		down	diversified, iron ore
Barton Gold	BGD		resuming uptrend	gold exploration
Beach Energy	BPT		testing resistance line	oil and gas
Bellevue Gold	BGL		off its highs	gold exploration
Benz Mining	BNZ		down again	gold
Black Cat Syndicate	BC8		recapturing uptrend	gold
BMG Resources	BMG		down	gold exploration
Boab Metals	BML		at resistance line	silver/lead
Buru Energy	BRU		sideways	oil
Calidus Resources	CAI		new low	gold
Caravel Minerals	CVV		slump	copper
Carnaby Resources	CNB		testing support line	copper
Castile Resources	CST		still in downtrend	gold/copper/cobalt
Celsius Resources	CLA		rising on takeover bid	copper
Cobalt Blue	COB		down	cobalt
Cyprium Metals	CYM		suspended	copper
Dateline	DTR		risen to meet resistance line	rare earths
Ecograf	EGR		new low	graphite
Emerald Resources	EMR		rising, new high	gold
Empire Energy	EEG		new low	gas
EQ Resources	EQR		rising	tungsten
Euro Manganese	EMN		down	manganese
Evolution Energy	EV1		softer	graphite
Evolution Mining	EVN		rising	gold
First Graphene	FGR		down	graphene
Fortescue Metals	FMG		testing downtrend	iron ore
FYI Resources	FYI		recovered to meet resistance line	HPA

Galena Mining	G1A		breached uptrend	lead
Genesis Minerals	GMD		down	gold
Genmin	GEN		down	iron ore
Gold Road	GOR		back to support line	gold
Great Boulder Resources	GBR		sideways	gold exploration
Group 6 Metals	G6M		down	tungsten
Hamelin Gold	HMG		uptrend being tested	gold exploration
Hastings Technology Metals	HAS		further collapse	rare earths
Hazer Group	HZR		rising again	hydrogen
Heavy Minerals	HVY		slump back to trend line	garnet
Highfield Resources	HFR		down	potash
Hillgrove Resources	HGO		slump	copper
Iluka Resources	ILU		still at highs	mineral sands
ioneer (was Global Geoscience)	INR		testing downtrend	lithium
Ionic Rare Earths	IXR		down	rare earths
Jervois Mining	JVR		breached new uptrend	nickel/cobalt
Jindalee Resources	JRL		at lows	lithium
Kaiser Reef	KAU		sideways through downtrend	gold
Kalina Power	KPO		sideways at lows	power station additive
Krakatoa Resources	KTA		new low	rare earths
Kingfisher Mining	KFM		heavy fall	rare earths
Lepidico	LPD		down	lithium
Lindian Resources	LIN		rising again	rare earths + bauxite
Lion One Metals	LLO		slump	gold
Li-S Energy	LIS		breached downtrend	Lithium sulphur battery technology
Los Cerros	LCL		new uptrend	gold exploration
Lotus Resources	LOT		down	uranium
Lucapa Diamond	LOM		down again	diamonds
Lunnon Metals	LM8		resumed uptrend	nickel
Lynas Corp.	LYC		spike out of downtrend	rare earths
Magnetic Resources	MAU		new low	gold exploration
Mako Gold	MKG		sideways	gold exploration
Marmota	MEU		drifting lower	gold exploration
Matador Mining	MZZ		down	gold exploration
Mayur Resources	MRL		rising	renewables, cement
Meeka Gold	MEK		at lows	gold
Megado Gold	MEG		rising	rare earths, gold exploration
MetalsX	MLX		down	tin, nickel
Meteoric Resources	MEI		rising again	rare earths
Metro Mining	MMI		still down	bauxite
Mithril Resources	MTH		sideways	gold/silver
Musgrave Minerals	MGV		spike on takeover bid	gold exploration
Nagambie Resources	NAG		down	gold, antimony
Neometals	NMT		breached downtrend	lithium

Newfield Resources	NWF		down	diamonds
Northern Star Res.	NST		new high	gold
Nova Minerals	NVA		collapse on -.3 gpt grade, 9.9 Moz	gold exploration
Orecorp	ORR		down	gold development
Pacific Gold	PGO		slump back to lows	gold exploration
Pantoro	PNR		new low	gold
Panoramic Res	PAN		down	nickel
Parabellum Resources	PBL		down	rare earths
Patriot Battery Metals	PMT		rising again	lithium
Peak Resources	PEK		on trend line	rare earths
Peninsula Energy	PEN		rising	uranium
Perseus Mining	PRU		off its highs	gold
Poseidon Nickel	POS		sideways	nickel
Provaris Energy	PV1		down	hydrogen
QMines	QML		new low	copper
Queensland Pacific Metals	QPM		long term down	nickel/cobalt/HPA
RareX	REE		breached uptrend	rare earths, phosphate
Regis Resources	RRL		rising again	gold
Renergen	RLT		breaching steepest downtrend	gas, helium
Resource Mining Corp.	RMI		strong rally	nickel exploration
Richmond Vanadium	RVT		recovering	vanadium
RIO	RIO		down	diversified, iron ore
Rumble Resources	RTR		secondary downtrend	gold exploration
S2 Resources	S2R		sideways	gold exploration
Sandfire Resources	SFR		breached uptrend	copper
Santos	STO		softer	oil/gas
Sarama Resources	SRR		sideways through downtrend line	gold exploration
Sarytogan Graphite	SGA		down	graphite
Siren Gold	SNG		sideways through downtrend line	gold exploration
South Harz Potash	SHP		down again	potash
Southern Cross Gold	SXG		down	gold exploration
Southern Palladium	SPD		down	PGMs
Stanmore Coal	SMR		surge higher	coal
Strandline Resources	STA		down	mineral sands
Sunstone Metals	STM		sideways	gold/copper exploration
Suvo Strategic Minerals	SUV		new low	kaolin
Talga Resources	TLG		down	graphite
Tamboran Resources	TBN		breached downtrend	gas
Technology Metals	TMT		down	vanadium
Theta Gold Mines	TGM		rising	gold
Thor Energy	THR		down	uranium, copper & REE
Tietto Minerals	TIE		breached downtrend	gold
Vanadium Resources	VR8		new low	vanadium
Venture Minerals	VMS		down	tin, tungsten

Vintage Energy	VEN		down	gas
Voltaic Strategic Resources	VSR		steep rise	lithium, rare earths
West African Resources	WAF		breaching downtrend	gold
West Cobar	WC1		down	rare earth + lithium
Westgold Resources	WGX		good rally	gold
West Wits Mining	WWI		downtrend breached	gold
Whitehaven Coal	WHC		breached downtrend	coal
Xantippe Resources	XTC		sideways	lithium
Zenith Minerals	ZNC		down	gold exploration
Totals	25%	36	Uptrend	
	49%	70	Downtrend	
		144	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 Exploration	**22**	**15.3%**	
Gold	**22**	**15.3%**	
Rare Earths	**15**	**10.4%**	
Oil/Gas	**9**	**6.3%**	
Nickel	**8**	**5.6%**	
Copper	**9**	**6.3%**	
Lithium	**9**	**6.3%**	
Iron Ore/Manganese	**5**	**3.5%**	
Graphite/graphene	**5**	**3.5%**	

Uranium	**5**	**3.5%**	
Silver	**4**	**40.0%**	
Tungsten	**3**	**2.1%**	
Mineral Sands	**2**	**1.4%**	
Vanadium	**3**	**30.0%**	
Zinc/Lead	**2**	**1.4%**	
Coal	**2**	**1.4%**	
Potash/Phosphate	**2**	**1.4%**	
Bauxite	**2**	**1.4%**	
Tin	**2**	**1.4%**	
Cobalt	**1**	**0.7%**	
Diamonds	**2**	**1.4%**	
Other	**10**		
Total	**144**		

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