

Feature on Ark Mines; rare earths are back in the spotlight

Following the Money into Rare Earths

As much as I like gold, there has definitely been a loss of momentum over recent months. A number of juniors have been embarking on production plays that have been aspirationally attractive, but take time to pass through the commissioning phase and prove their merit. The level of success achieved will influence investor appetite for more of the same. Meanwhile, the gold price has hit US\$3,400/oz again but the punters are taking this in their stride.

If you subscribe to the maxim that you should "follow the money", then you will be looking more closely at the rare earths sector. We have seen the bottom here as the Chinese have been relaxing the stranglehold on prices. Trump continues to talk of the rare earth importance and his rhetoric is bringing in players that might not normally participate in such high risk sectors.

We should be fully aware of all the technical issues with the wide range of styles of deposits and trying to get into production. Whether to produce a concentrate or move further downstream to produce refined products has all sorts of implications for timeline and capital expenditures.

We should be aware that rare earths are not rare. How many projects can get off the ground in time to secure a place on the supply curve? Will there be a tsunami of new producers and an oversupply and if so, who will be good enough to survive in an ordinary pricing environment.

These are all important issues that companies need to consider but for stock market players it starts to get too serious. Instead, look to where the money is flowing. At the big end we have just seen a \$750m raising by Lynas. A week ago we saw one of my favourite RE stocks, Lindian, bank \$91m in a placement undertaken after the share price had more than doubled. The money is flowing into the quality end of the market but what about the rest of the pack? There will be some spillover, as evidenced by the events occurring at Ark Mines (AHK), a company that is emerging as a real contender with government support in Queensland. We have covered the stock previously with a favourable perspective, but it seems to be gathering momentum given the news flow and the share price performance last week.

Ark Mines Presentation Last Wednesday

Back in the 1990s, Ark's Sandy Mitchell project ground was prospected for uranium. The scintillometer went crazy but it wasn't uranium that set it off, it was monazite. At the time monazite was considered to be a radioactive nuisance but today we now know it for its association with rare earths. That monazite forms the basis for Ark claiming it will be an early producer of rare earths and heavy minerals as early as the December Half, 2027. The Government support announced last week promises to be a real boost to the company, if the market reaction was any guidance. The

share price jumped from 18.5¢ to a high of 53.5¢, before closing the week at 35¢.

Queensland Government Support - \$4.5m

The big announcement was the \$4.5m investment in Ark by the QIC Critical Minerals and Battery Technology Fund. This comprises \$4m up-front funding tied to royalties based on future product sales from the Sandy Mitchell Project and a \$500,000 equity investment at 16.7¢ a share. So, having done its homework, the Qld Government is putting up money. The funding will be used for Stage 3 drilling and the Pre-Feasibility study due for release in Q1 2026.

Very large, simple near surface deposit.

One of the more appealing features of the Sandy Mitchell deposit is its simplicity. Located below Palmerville on the Mitchell River, 203 km NW of Cairns in North Queensland, it is technically a placer sand deposit that lies within 12m of the surface. That means zero strip ratio. Exploration has been easy and low cost with air-core and auger drilling methods. As you would expect of sand deposits, the material is unconsolidated and highly weathered, sufficiently so that there is no need for blasting, crushing or grinding.

The Measured Mineral Resource estimate is currently 71.8 Mt at 1,732 ppm monazite equivalent using a 700 ppm MzEq lower cut-off grade. This constitutes only 4.5% of the Exploration Target of 1.3 to 1.5 Bt at 1,250-1,490 Mb. A drill program is underway with expectations the MRE will increase to 330 Mt. Other heavy minerals in the suite include xenotime, zircon, garnet, rutile and ilmenite.

Positive metallurgical test work undertaken to date

Early stage test work has shown that 50% of the sand material can be screened off with +2mm screening. Then, simple gravity separation concentrates the product further and eventually ARK ends up with a 51.9% TREO concentrate. More test work is to be undertaken as part of the PSF study.

Simple mining and processing

It would be difficult to find a more technically simple project when it comes to mining and processing. The shallow, low impact mining is based on no blasting, no overburden and no clay profiles. There will be no chemicals, salts or acids in the gravity only processing plant. Mobile screens will remove waste in the field prior to running the product through wet spirals, semi or fully mobile, then it goes through an offsite separation plant. Throughput could be very large, at 20-2 Mtpa. Rehabilitation of the land will be continuous as mining progresses along the length of the orebody.

Early Cost Estimates in Scoping Study

Ark released a Scoping Study last December, disclosing an estimated capex of A\$120-150m. Site operating costs were estimated to be a very low \$3-4 pt, but trucking the concentrate to port will cost \$110-125 pt. EBITDA was estimated at \$45-\$53 pa and capex payback, 3-4 years.

While monazite is the topical product it is a multi-commodity deposit, as shown in the table of grades below. Grades and mineral recovery rates were released as;

Product	In-situ Grade	Recovery Rates
Zircon	686 gpt	55-58%
Rutile	107 gpt	2-3%
Xenotime	117 gpt	40-44%
Monazite	120 gpt	40-44%
Garnet	3250 gpt	55-58%

The Bottom Line

Ark's Sandy Mitchell Project stands out for its relative simplicity both in the geology and the gravity recovery methods when compared to ionic clays and hard rock deposits. Unlike many of these others, it seems to be very environmentally benign, something that will be useful in the permitting. If it choses to only go to the simple concentrate stage, with lower margins than what could be expected for a refined product, it will have to compete with other

companies coming on-stream. However, that doesn't seem to be a problem just now.

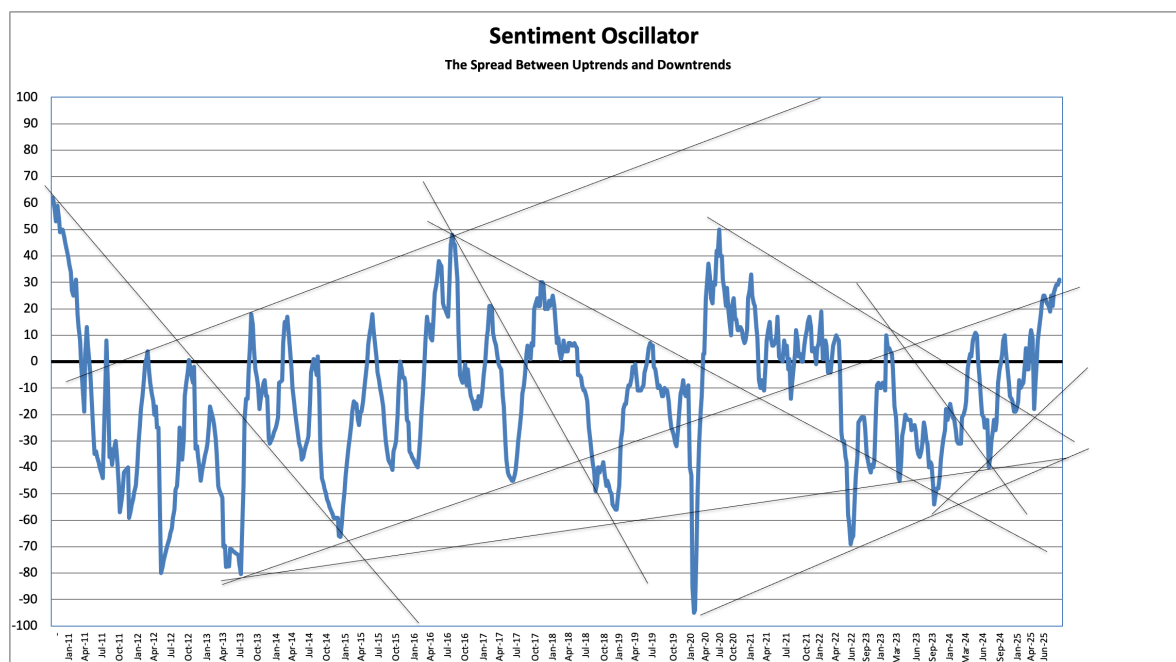
The market is only \$23m with the share price at 35¢. That means it is priced at only option value

Opportunity to take Terrain Shortfall

Last week we discussed the merits of Terrain Minerals, with the bottom line comment reading;

"Terrain is certainly an interesting grass roots exploration play in a topical area of WA. If you look at the map its ground appears to be quite strategically located in a trend where Capricorn Metals is seeking to maximise its control. To the south Capricorn has the Mt Gibson Gold Project. To the north, Capricorn is proceeding with a bid to take out Warriedar Resources with its resource of about 1 Moz. If Terrain starts to come up with more good results on the Monza Gold Prospect, it may find that Capricorn swoops on it as well."

The Terrain CEO has advised me that it proposes to place the shortfall from the recent entitlement issue next week. That was an issue of shares at 0.3¢ with a 1 for 1 attached free option, exercisable by June 2027, at 0.5¢. If you are interested in taking some of this, and you are a \$708 investor, contact me and I will try to arrange an allocation



Sentiment Oscillator: Sentiment continues in a strong uptrend. There were 53% (50%) in uptrend and 22% (21%) in downtrend at the close of the week.

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		at new highs	
Metals and Mining	XMM		new high	
Energy	XEJ		surge out of downtrend	
Stocks	Code		Trend Comment (updated comments in bold)	Main Interest
Aguia Resources	AGR		new low	phosphate, gold
Alkane Resources	ALK		new high	gold
Alicanto Minerals	AQI		spiked higher	base metals, silver, gold
Alligator Energy	AGE		down after placement	uranium
Almonty Industries	AIL		surge to new high	tungsten
Alpha HPA	A4N		improving	HPA
American Rare Earths	ARR		correcting lower	rare earths
Anax Metals	ANX		new low after placement	copper
Andean Silver	ASL		rising again	silver
Arafura Resources	ARU		rising	rare earths
Ardea Resources	ARL		ticked higher	nickel
Arizona Lithium	AZL		new low	lithium
Astral Resources	AAR		back to support line	gold
Aureka	AKA		still in downtrend	gold exploration
Auric Mining	AWJ		down	gold
Aurora Energy Metals	1AE		spike out of downtrend	uranium
Aurelia Metals	AMI		collapse on guidance announcement	copper + base metals
Aurum Resources	AUE		rising	gold
Australian Gold and Copper	AGC		breached downtrend	base metals, silver, gold
Australian Rare Earths	AR3		spiked through downtrend	rare earths
Australian Strategic Materials	ASM		weaker	rare earths
BHP	BHP		new high	diversified, iron ore
Ballard Mining	BM1		new IPO	gold
Ballymore Resources	BMR		rising	gold exploration
Barton Gold	BGD		breaching downtrend	gold exploration
Beach Energy	BPT		at resistance line	oil and gas
Beetaloo Energy	BTL		strongly higher	breached down trend
Bellevue Gold	BGL		sideways	gold
Besra Gold	BEZ		still down	gold
Black Cat Syndicate	BC8		breaching downtrend	gold
Boab Metals	BML		spike then a placement	silver/lead
Brazil Critical Minerals	BCM		new low - two tranche plus 1 for 3	rare earths
Brazilian Rare Earths	BRE		breached uptrend	rare earths
Brightstar Resources	BTR		ST down	gold
Caravel Minerals	CVV		down	copper










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Carnaby Resources	CNB		breaching uptrend	copper
Castile Resources	CST		testing downtrend	gold/copper/cobalt
Catalyst Metals	CYL		surge higher	gold
Cazaly Resources	CAZ		gentle uptrend	rare earths
Centaurus Metals	CTM		sideways	nickel/cobalt/HPA
Challenger Gold	CEL		surge higher	gold
Cobalt Blue	COB		down	cobalt
Cyprium Metals	CYM		testing uptrend	copper
Emerald Resources	EMR		back to highs	gold
Emmerson Resources	ERM		new high	gold
EQ Resources	EQR		stronger	tungsten
Estrella Resources	ESR		down	manganese
Evolution Mining	EVN		testing uptrend	gold
Felix Gold	FXG		pullback	gold exploration, antimony
Finder Energy	FDR		uptrend	oil/gas
First Graphene	FGR		new uptrend	graphene
Flagship Minerals	FLG		sideways	gold
Genesis Minerals	GMD		breached uptrend	gold
Globe Metals and Mining	GBE		surge higher	niobium
Gold 50	G50		spike higher on discovery	gold exploration + gallium
Golden Horse	GHM		breached downtrend	gold exploration
Great Boulder Resources	GBR		steeply higher	gold exploration
Green360 Tech (was Suvo)	GT3		down	kaolin
Hamelin Gold	HMG		down	gold exploration
Heavy Minerals	HVY		new high	garnet
Hillgrove Resources	HGO		still in downtrend	copper
Iltani Resources	ILT		down	antimony
Iluka Resources	ILU		strongly higher	mineral sands
Jupiter Mines	JSM		improving	manganese
Kairos Minerals	KAI		testing uptrend	gold
Kaiser Reef	KAU		sideways	gold
Kalamazoo Resources	KRZ		rising	gold
Kalina Power	KPO		new uptrend	carbon sequestration
Koba Resources	KOB		back to lows	uranium
Larvotto Resources	LRV		sideways through downtrend line	gold, antimony
Lindian Resources	LIN		bouncing	rare earths + bauxite
Lotus Resources	LOT		rising again	uranium
Lynas Corp.	LYC		rising again	rare earths
Many Peaks	MPK		breached uptrend	gold exploration
Marmota	MEU		spiked higher on titanium discovery	gold/uranium exploration
Matsa Resources	MAT		strongly higher	gold
Mayur Resources	MRL		sideways	renewables, cement
Meeka Gold	MEK		uptrend	gold
MetalsX	MLX		back to support line	tin, nickel

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Meteoric Resources	MEI		testing uptrend	rare earths
Metro Mining	MMI		rising again	bauxite
Midas Minerals	MM1		new high	lithium
Native Mineral Resources	NMR		testing uptrend	gold
New Murchison	NMG		rising	gold
New World Resources	NWC		rising	copper
Nexgen Energy	NXG		sideways through uptrend	uranium
Northern Star Res.	NST		rising again	gold
Nova Minerals	NVA		breaching downtrend	gold exploration
Novo Resources	NVO		sideways	gold exploration
Omega Oil	OMA		rising	oil
Pacific Gold	PGO		back to lows	gold exploration
Paladin Energy	PDN		breached downtrend	uranium
Pantoro Gold	PNR		reconstruction 17 into 1	gold
Patriot Battery Metals	PMT		strongly higher	lithium
Peninsula Energy	PEN		trading again after large placement	uranium
Perseus Mining	PRU		correcting lower	gold
QMines	QML		rising	copper
Queensland Pacific Metals	QPM		turning down again	nickel/cobalt/HPA
Regis Resources	RRL		rising	gold
Renergen	RLT		surged higher	gas, helium
Richmond Vanadium	RVT		down	vanadium
RIO	RIO		at resistance line	diversified, iron ore
RTG Mining	RTG		down	copper
Rumble Resources	RTR		breached downtrend	zinc exploration
S2 Resources	S2R		spike then pullback	gold exploration
Santana Minerals	SMI		sideways	gold
Santos	STO		spike higher on takeover approach	oil/gas
Sarytogan Graphite	SGA		rising	graphite
Scorpion Minerals	SCN		testing downtrend	gold exploration
Siren Gold	SNG		improving	gold exploration
Southern Palladium	SPD		spike then a placement	PGMs
Stanmore Coal	SMR		improving	coal
St George Mining	SGQ		rising again	rare earths, niobium
Stellar Resources	SRZ		gently improving	tin
Sun Silver	SS1		higher	silver
Talga Resources	TLG		down	graphite
Tamboran Resources	TBN		testing downtrend	gas
Terra Uranium	T92		spike on rare earths deal	uranium
Theta Gold Mines	TGM		rising again	gold
Toro Energy	TOE		breaching downtrend	uranium
Torque Metals	TOR		breached downtrend	gold exploration + lithium
Toubani Resources	TRE		new high	gold
Trigg Minerals	TMG		consolidating	antimony

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Verity Resources	VRL		falling again	gold
Vertex Minerals	VTX		breached downtrend	gold
Waratah Minerals	WTM		spiked higher	gold exploration + gallium
Westgold Resources	WGX		back to highs	gold
West Wits Mining	WWI		rising	gold
Whitehaven Coal	WHC		new uptrend	coal
White Cliff Minerals	WCN		rising gently	copper exploration
WIN Metals	WIN		gentle uptrend	gold
Yandal Resources	YRL		recovering	
Totals	53%	70	Uptrend	
	22%	29	Downtrend	
		132	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	36	27.3%	
Gold Exploration	18	13.6%	
Copper	13	9.8%	
Rare Earths	10	7.6%	
Uranium	10	7.6%	
Oil/Gas/Hydrogen	7	5.3%	
Iron Ore/Manganese	4	3.0%	
Lithium	2	1.5%	
Graphite/graphene	3	2.3%	
Nickel	3	2.3%	
Silver	3	2.3%	
HPA/Kaolin	2	1.5%	
Tungsten	2	1.5%	
Tin	2	1.5%	
Antimony	3	2.3%	
Coal	2	1.5%	
Niobium	2	1.5%	
Potash/Phosphate	1	0.8%	
Vanadium	1	0.8%	
Zinc/Lead	1	0.8%	
PGMs	1	0.8%	
Mineral Sands	1	0.8%	

Bauxite	1	0.8%	
Cobalt	1	0.8%	
Other	3	2.3%	
Total	132		

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