

## Donut Lab Battery Could be a Game Changer ... if it is real

It looks like there will be no winner out of the Iran War. The most likely outcome is that both sides will step back without there being a comprehensive outcome. That means the friction is something that will continue on indefinitely, for years. The only way things will change is if internal forces in Iran cause a regime change, but don't be holding your breath.

So, we will have continued uncertainty for at least two weeks. The aim now is to minimise economic disruption going forward. We can live with tension and markets will become familiar with this scenario, but any serious escalation from this point will cause another wave of selling that no-one wants.

On a wider scale we will see greater uncertainty regarding dealings with China. The immediate concern of that country is to keep oil flowing, but in the longer term there must be concern about future moves on Taiwan. The failure of the USA to efficiently prosecute a war, and win, will probably please China. On the other hand, Russia has similarly failed. Will China be trying to weigh up whether it would be smart to attack Taiwan at any point when the other superpowers are struggling in their military endeavours?

### *Donut Lab Battery - too good to be true?*

The article in The Australian last week covering the DonutLab battery was a real eye opener that, if accurate, could dramatically shift the goal posts on energy storage. It was stated that the donut;

- could charge in only five minutes,
- have a 50 year life (100,000 cycles),
- cost only 10% of conventional EV batteries,
- are safe i.e. non-flammable and
- weights 50% less than lithium batteries.

The improvements are attributed to the solid state nature of of the Donut, but how does it really work? A conventional lithium-ion battery works with a liquid electrolyte that moves ions back and forth between the cathode and the anode. With the Donut, the liquid is replaced by a solid electrolyte.

### *The Holy Grail has been solid state batteries*

Researchers have been taking the industry down the solid state path for a number of years as solid state has been seen as the holy grail that will overcome the problems of;

- electrolyte breakdown
- electrode cracking
- lithium plating
- growth of dendrites that can short the cell

If indeed these issues have been overcome, the Donut will be very disruptive and will be likely to rewrite the future of the energy storage sector.

But wait. That is not all. The Donut can be made in custom sizes and they can be directly integrated into a chassis or platform. The automobile designers can have a field day in shaping the cars of the future.

### *The Bottom Line*

This is sensational news for uses such as in EVs, but the improvements seem almost too good to be true. Is it still a concept that needs to go through a proving period or does it really work in the field? What is the technology readiness level?

What about costs of production? Will they be low enough to knock existing EV battery producers off their perch? If they can, then shareholders in the established companies must be wondering when they should press the sell button as there may have to be massive write-downs in the value of existing production capacity.

Every significant technological advancement will have implications for existing technology, but the speed of implementation will be the true arbiter of just how disruptive it will be. There may be enormous resistance to something this revolutionary from those companies that stand to lose from the improvements. They will want to be protecting their turf!

There has already been a wave of skeptical commentary opining that this is a scam. Experts have said The Donut seems to be acting more like a super capacitor than a battery. So what? That is not a problem as far as I can see as researchers having been working on this as a replacement for a battery for many years in search of something better.

I have had some experience in this field, with the Best Battery supercapacitor being researched by First Graphene a few years back. The concept was great but we abandoned the project when it became apparent that it wasn't going to be small enough to compete with AA and AAA batteries. Maybe the Donut guys have got it right this time.

### *Sierra Nevada Gold (SNX)*

SNX is a company I have been aware of for some time but I have never written about it, until now. The late Dave Ransom, the highly-regarded geologist who used to work for Acorn Capital, was a director and a supporter. That carries weight with me. I was always favourably disposed towards the company but discussions with the new chairman, Simon Lill, and geologist Brett Butlin, were sufficient motivation to introduce it to readers of the Weekly.

### *Another Nevada Explorer*

Australian investors have starting to gravitate towards ASX-listed juniors in Nevada, which is probably the best jurisdiction in the USA. Recently we covered Mammoth (M79) and PolarX (PXX). This week we introduce Sierra

Nevada (SNX), a company that has been there for some time.

Like all stocks in the sector, the share price has been hit hard in recent weeks, falling to a recent low 3.9¢ and a market capitalisation of \$19m (now back to 4.2¢ and \$20.5m). Cash resources are around \$7m after having raised \$9.6m last September at 3¢ a share. Interestingly, Cranport is the largest shareholder with 11% and retired mining analyst, Peter Woodford, accounting for 9.1% of the issued shares.

The Company has five 100%-owned projects in Nevada;

i) Blackhawk - epithermal - Ag, Au, Pb, Zn

The discovery hole was 12m at 219 gpt Ag, 0.36 gpt Au and 3% Pb from 150m below the Endowment Mine. It looks like a large-scale system that will require JV funding.

ii) Warrior - epithermal gold

Drilling in 2023, returned 20.7m at 2.13 gpt. There is a 10+ strike km of blind targets under shallow cover. It is also a large scale system that will require JV funding.

iii) New Pass - gold and historical workings

Drilling in 2022, of veins returned 1.22m at 26.7 gpt. Historical gravity plant is still on site. It is accessible for small scale mining now. See further details below.

iv) Colorback - Carlin-style gold

Analogue to the 50 Moz Cortez and Pipeline deposits. Drilling has hit near surface mineralisation of 29m at 1.3 gpt Au

v) Blackhawk - porphyry

Appears to be host multiple large-scale copper/gold porphyry system.

*New Pass likely to be trial mined first*

Of these projects the New Pass is the most advanced. Underground access to Level 4 is possible now, for trial mining, in conjunction with an air-leg mining team that will receive a royalty in a type of joint venture exercise. The first phase of work is to confirm the grade of the Superior Vein through a small program of development and drilling. If the grade and vein continuity is confirmed, then SNX will decide whether to undertake Phase 2 which is mining of the veins as described below.

There are two veins, Superior and Thomas West. They dip at 80-85 degrees and are 1-1.5m wide, carrying a grade of around 20 gpt. Apply 40% dilution to get the expected ROM grade. Over the next three months SNX will develop a panel 15m high over 80m of strike, obtaining access via a 2.5-3m wide drive, 2.5m high. Total strike length of the mine is about 400m, suggesting an endowment of 800 oz pr vertical metre.

The plan is to trial mine and process up to 3,000 tonnes of ore through a third party plant with gravity recovery thought to be 80-85%. There is potential to recover about 1,500 oz that would provide gross revenue of A\$10m, and perhaps a few million in profit to SNX.

This exercise will be useful in determining whether there is a profitable future in narrow-vein, high grade underground mining at New Pass. But, as we know, it takes time and discipline.

*Diversifying into Saudi Arabia*

Late in 2025, SNX embarked on a Saudi Arabian initiative. Last December it announced that it had been awarded the As Safra Copper Gold Project. Historical rock chip sampling of skarn mineralisation by BGRM (the French company) has returned grades up to 244 gpt Au and 11% Cu, which is useful but not definitive. What is more significant is a 5.5km x 0.6km area of historic workings. Only seven holes have been drilled, in 1969, by BRGM. Intercepts included 5m at 4.1% Cu from 122m and 24.6m at 1.69% Cu from 146m. Historical IP surveys have revealed multiple, largely untested chargeability anomalies interpreted as potential orebodies at depth. The most immediate targets will be high-temperature feeder zone where the better-grade skarn assays have been taken.

Generally, the Arabian/Nubian Shield in Saudi Arabia has been under-explored owing to the oil industry being more important to the country. However, there have been recent Government initiatives that intend to address this.

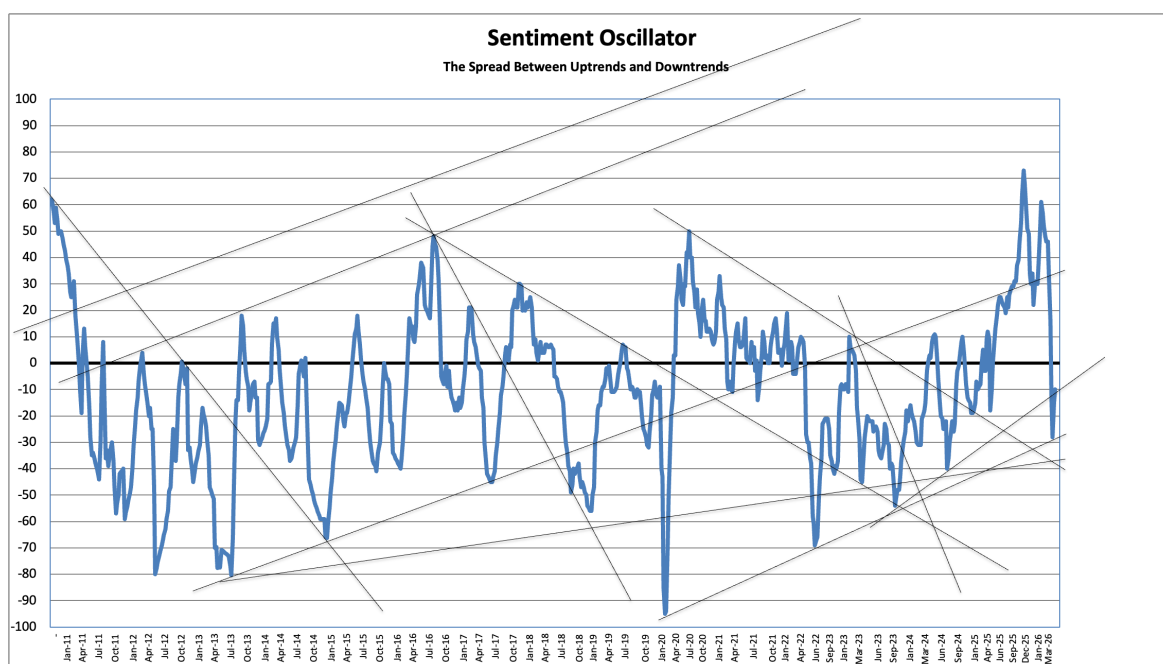
The integration of modern geochemical analysis with historic drilling has significantly improved the confidence in selecting priority targets that are scheduled to be drill tested with a 5,000m DD and RC over the coming weeks.

*Bottom Line*

The ground in Nevada is well located, with plenty of potential, but it is work in progress. There is plenty of upside but a trial mining exercise at New Pass is of immediate interest. If the trial mining exercise is successful, we could start to run some firmer numbers on the potential profitably (which could be very good).

Notwithstanding its Nevada merit, SNX has not able to achieve much share price traction on them alone. It wasn't until the Saudi initiative, which is more speculative and in a less user-friendly environment, that we started to see more widespread interest. Brett Butlin was a member of the previous successful Citadel venture, so he should know his way around the country. Whether the current conflict with Iran will have a dampening effect on enthusiasm for the As Safra Exploration Project remains to be seen.

On balance, the shares look good speculative value at present with a healthy cash balance.



**Sentiment Oscillator:** Sentiment continued to recover last week. There were 33% (29%) of shares under coverage in uptrend, and 43% (44%) 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	rising again	
Metals and Mining	XMM	surge higher	
Energy	XEJ	correcting lower	
Stocks	Code	Trend Comment (updated comments in bold)	Main Interest
Aguia Resources	AGR	<b>new uptrend</b>	phosphate, gold
Akora	AKO	testing uptrend	iron ore
Alkane Resources	ALK	approaching highs again	gold
Alicanto Minerals	AQI	recovering uptrend	base metals, silver, gold
Alligator Energy	AGE	down	uranium
Almonty Industries	All	surge to new high	tungsten
Alpha HPA	A4N	down	HPA
American Rare Earths	ARR	down	rare earths
American Tungsten & Antimony	AT4	down	antimon
Anax Metals	ANX	recovering uptrend	copper
Andean Silver	ASL	rising again	silver
Arafura Resources	ARU	shallower uptrend	rare earths
Ardea Resources	ARL	testing support line	nickel
Ark Mines	AHK	down	rare earths
Astral Resources	AAR	breaking downtrend	gold

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Aureka	AKA		weaker	gold exploration
Auric Mining	AWJ		testing uptrend	gold
Aurora Energy Metals	1AE		strong rally	uranium
Aurelia Metals	AMI		improving	copper + base metals
Aurum Resources	AUE		correcting lower	gold exploration
Australian Gold and Copper	AGC		testing support line	base metals, silver, gold
Australian Rare Earths	AR3		collapse through support	rare earths
Australian Strategic Materials	ASM		down	rare earths
BHP	BHP		back in uptrend	diversified, iron ore
Ballard Mining	BM1		testing short term downtrend	gold
Ballymore Resources	BMR		down	gold exploration
Barton Gold	BGD		down	gold exploration
Beach Energy	BPT		pushing higher	oil and gas
Beetaloo Energy	BTL		surge higher	gas
Bellevue Gold	BGL		recapturing uptrend	gold
Besra Gold	BEZ		off its highs	gold
Black Cat Syndicate	BC8		down	gold
Boab Metals	BML		heavy correction	silver/lead
Brazilian Rare Earths	BRE		heavy pullback	rare earths
Brightstar Resources	BTR		strong rally	gold
Caravel Minerals	CVV		testing downtrend	copper
Carnaby Resources	CNB		falling	copper
Castile Resources	CST		down	gold/copper/cobalt
Catalyst Metals	CYL		down	gold
Cazaly Resources	CAZ		down	rare earths
Centaurus Metals	CTM		new high	nickel/cobalt/HPA
Challenger Gold	CEL		testing support line	gold
CNG Resources	CGR		down	gold exploration
Cobalt Blue	COB		down	cobalt
CuFe	CUF		down	bismuth
Cyprium Metals	CYM		down	copper
Emmerson Resources	ERM		new high	gold
EQ Resources	EQR		strongly higher	tungsten
Estrella Resources	ESR		sideways	manganese
Evolution Mining	EVN		rising	gold
Felix Gold	FXG		down	gold exploration, antimony
Finder Energy	FDR		surge through downtrend	oil/gas
First Graphene	FGR		down	graphene
Flagship Minerals	FLG		new high	gold
Genesis Minerals	GMD		recovering	gold
Globe Metals and Mining	GBE		higher again	niobium
Gold 50	G50		down	gold exploration + gallium
Golden Horse	GHM		down	gold exploration
Great Boulder Resources	GBR		recovering	gold exploration

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Green360 Tech	GT3		slump to lows	kaolin
Hamelin Gold	HMG		down	gold exploration
Hawk Resources	HWK		rising again	scandium
Heavy Minerals	HVY		breached downtrend	garnet
Hillgrove Resources	HGO		breaching downtrend	copper
Iltani Resources	ILT		down	antimony
Iluka Resources	ILU		rising again	mineral sands
Investigator Resources	IVR		falling	silver
Jupiter Mines	JSM		breached uptrend	manganese
Kairos Minerals	KAI		recaptured uptrend	gold
Kaiser Reef	KAU		correcting	gold
Kingfisher Minerals	KFM		rising	copper expl.
Kalamazoo Resources	KRZ		down	gold
Kalina Power	KPO		down	data centre power
Koba Resources	KOB		still in downtrend	uranium
Larvotto Resources	LRV		testing uptrend	gold, antimony
Litchfield Minerals	LMS		down	copper exploration
Lindian Resources	LIN		rising	rare earths + bauxite
Lode Resources	LDR		down	antimony, silver
Lotus Resources	LOT		longer term downtrend	uranium
Lynas Corp.	LYC		surge higher	rare earths
Mammoth	M79		down	gold exploration
Many Peaks	MPK		sideways	gold exploration
Marmota	MEU		down	gold/uranium exploration
Matsa Resources	MAT		down	gold
Meeka Gold	MEK		down	gold
MetalsX	MLX		testing downtrend	tin, nickel
Meteoric Resources	MEI		on support line	rare earths
Metro Mining	MMI		sideways	bauxite
Midas Minerals	MM1		down	lithium
Mithril Silver & Gold	MTH		strong rally	silver, gold
Native Mineral Resources	NMR		turning down	gold
New Murchison	NMG		down	gold
New World Resources	NWC		rising	copper
Nexgen Energy	NXG		breaching uptrend	uranium
Novo Resources	NVO		placement & heavy correction	gold exploration
Omega Oil	OMA		rising	oil
Pacific Gold	PGO		down	gold exploration
Pacific Lime & Cement	PLA		sideways	renewables, cement
Paladin Energy	PDN		down	uranium
Pantoro Gold	PNR		breached downtrend	gold
Patriot Battery Metals	PMT		down	lithium
Peninsula Energy	PEN		heavy correction	uranium
Perseus Mining	PRU		down	gold

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PolarX	PXX	down	gold exploration, base metals
QMiners	QML	down	copper
QPM Energy	QPM	down	gas power station
Regis Resources	RRL	down	gold
Revolver Resources	RRR	softer	copper
Richmond Vanadium	RVT	spiked higher	vanadium
RIO	RIO	new high	diversified, iron ore
Rox Resources	RXL	testing uptrend	gold
RTG Mining	RTG	testing uptrend	copper
Rumble Resources	RTR	rising	zinc, gold, tungsten exploration
S2 Resources	S2R	down	gold exploration
Santana Minerals	SMI	correcting lower	gold
Santos	STO	rising	oil/gas
Sarytogan Graphite	SGA	down	graphite
Scorpion Minerals	SCN	softer	gold exploration
Siren Gold	SNG	down	gold exploration
Skylark Minerals	SKM	down	gold exploration
Somerset Minerals	SMM	back to support line	copper exploration
Southern Palladium	SPD	testing downtrend	PGMs
Stanmore Coal	SMR	heavy slump	coal
St George Mining	SGQ	testing uptrend	rare earths, niobium
Stellar Resources	SRZ	on support line	tin
Sun Silver	SS1	down	silver
Sunrise Metals	SRL	testing downtrend	scandium
Talga Resources	TLG	down	graphite
Tamboran Resources	TBN	rising	gas
Theta Gold	TGM	breaching downtrend	gold
Toro Energy	TOE	rising again	uranium
Torque Metals	TOR	surge on management changes	gold exploration + lithium
Toubani Resources	TRE	rising, gently	gold
Verity Resources	VRL	testing downtrend	gold
Vertex Minerals	VTX	down	gold
Waratah Minerals	WTM	testing uptrend	gold exploration
Westgold Resources	WGX	breached downtrend	gold
West Wits Mining	WWI	correcting lower	gold
Whitehaven Coal	WHC		coal
White Cliff Minerals	WCN	down	copper exploration
WIN Metals	WIN	down	gold
Yandal Resources	YRL	down	gold exploration
Totals	33%	47	Uptrend
	43%	61	Downtrend
		142	

### 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	34	23.9%	
Gold Exploration	25	17.6%	
Copper	14	9.9%	
Rare Earths	11	7.7%	
Uranium	8	5.6%	
Oil/Gas/Hydrogen	6	4.2%	
Silver	6	4.2%	
Iron Ore/Manganese	5	3.5%	
Antimony	4	2.8%	
Lithium	2	1.4%	
Graphite/graphene	3	2.1%	
HPA/Kaolin	2	1.4%	
Nickel	2	1.4%	
Scandium	2	1.4%	
Tungsten	2	1.4%	
Tin	2	1.4%	
Coal	2	1.4%	
Bismuth	1	0.7%	
Niobium	1	0.7%	
Potash/Phosphate	1	0.7%	
Vanadium	1	0.7%	
PGMs	1	0.7%	
Mineral Sands	1	0.7%	
Bauxite	1	0.7%	
Cobalt	1	0.7%	
Other	4	2.8%	
Total	142		

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