Lithium-ion Bull, December 5: Long Live Rock

As I pen this penultimate Lithium-ion Bull for 2017, having ingested a weekend-full of Music City, Nashville, TN blue sky, moonshine and carbohydrates, and digested over a post-yoga Saturday brunch Mr. Lithium's insightful Reader's Digest-sized 2017 lithium summary…

https://www.linkedin.com/pulse/lithium-year-review-2017-joe-lowry/

…I share a souvenir I bought to adorn Bull's Lair…

Attention Millennial Investors!

Attention @BrokeMillenial!

1960's Retro Icon: Fred "Joe Battery-Pack" Flintstone

2017-2021+ lithium equity catch phrase: **https://www.youtube.com/watch?v=qpGx4foRdPw**

Not to be mistaken with:

@ML_SuperNinja, $AVZ (Hilarious!): https://www.youtube.com/watch?v=STeVTzWelns

Sidebar: I feel similarly about and still don't wanna **Tawana** or anything connected to **Bald Hill.**

I have many thoughts germinating for a year-end LI Bull finale ahead of multi-cultural visits with family in Budapest and to Israel. Which, among other things, reminds me of my first ever exposure to the concept of profits from brines in the late 1990's: Dead Sea Bromine, now part of Israel Chemicals. ICL last year was rumored to be interested in SQM – too bad for them they didn't invest. Potash Corp has to sell their ICL stake, as they do their SQM stake as a condition for their Agrium merger to go through. Interesting dynamic. A thought on $RIO and #lithium non-top:

> **Lithiumionbull** @HowardKlein10 · Nov 21
> Good history of M&A ineptitude @gadfly, tho disagree re: #lithium top signal. Since 2000 $SQM +1,900% @RioTinto +100%. $5B in $SQM likely better ROI than $RIO $2.5B buyback program. $SQM risk is political @EduardoBitran. $RIO only smoking $POT if invest w/o license assurance.
>
> 
>
> **Bloomberg Gadfly** @gadfly
> Here's a downer for lithium: Rio Tinto's buying
> bloom.bg/2Bb7esL

Like prices of most lithium equities in the past 3 months, Twitter has doubled the number of characters it allows. Which means I'm reading – and writing -- more words and symbols.

I cut and paste some Twitter filler this issue, before commenting on the Lithium Scoreboard as November came to a close last week. And speak to one narrative which highlights a broader, over-arching narrative: the lithium battery material industry is growing and evolving so quickly that some conventional wisdoms within very short periods of time become false narratives.

Like *downstream refining in Western Australia won't happen due to higher labor and energy costs.* I think one of the biggest stories of 2017 is the emergence of a **clean and green lithium chemical processing industry in Australia**. And not just lithium. But **cobalt sulphate** and **nickel sulphate** too.

Last week's Economist gets it mostly right profiling **Altura, Pilbara** and **Clean TeQ**, which I augmented November 24 as follows:

> **Lithiumionbull** @HowardKlein10 · Nov 24
> @TheEconomist Good Li Fe in Oz. $CLQ $PLS and $AJM. Don't forget $KDR $MIN $NMT $GXY. Only quibbles: suggest removing the "speculative" label on these names. Also, $RIO is not a "risk," but sign of healthy M&A. Like Fe, long-term, Li likely to be again a consolidated Big 4 or 5
>
> **Chris Berry** @cberry1
> The whizz of Oz: Australia is the new frontier for battery minerals
> economist.com/news/business/… via @TheEconomist

https://www.economist.com/news/business/21731676-speculators-are-piling-thanks-strong-demand-chinas-electric-vehicle

And on November 26, Clean TeQ:

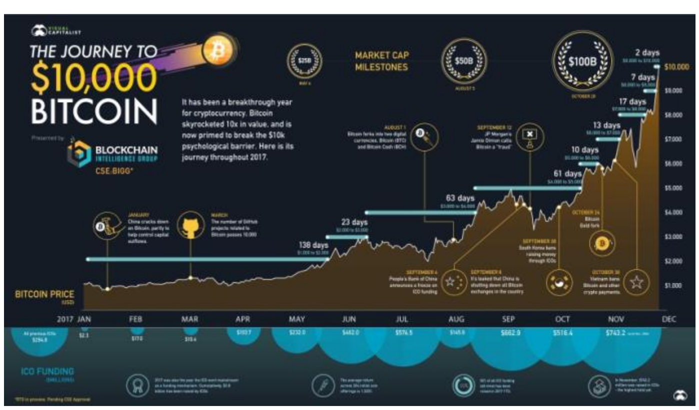
http://clients3.weblink.com.au/pdf/CLQ/01925548.pdf

Oz has quality mines and great jurisdiction and, given the price inelasticity by cathode buyers of lithium chemicals, will provide a strong price umbrella for those who can produce early from lower cost South America. Argentina will be a significant focus of my next and last LI Bull for 2017. **ORE** and **LAC** are among the best positioned, highest margin Emerging Producers, short, medium and long-term.

What I call **The Good Li Fe** for all Emerging Producers in WA should persist for the next three years as their off-take arrangements are based at least in part on carbonate prices which likely will be in the low to mid-teens during this period. I see some risk of spodumene over-supply even within a tight carbonate and hydroxide market. Tianqi & ALB and SQM/Kidman have downstream refining strategies in Oz. Those among PLS, AJM, MIN, NMT who follow suit will ensure they win long-term in my view – or risk getting squeezed – existing pricing mechanisms are not long-lived. Unless they are bought out. I believe GXY's Mt. Cattlin is too short lived and low grade to base a downstream strategy on.

Bitcoin Lithium? My quick comment below on LinkedIn to this widely distributed Visual Capitalist chart proved relatively popular.

> *"The Elliot Wave-like pattern leading in a few short years to today's bitcoin euphoria shows how far the #lithium equity market could grow. The crypto market cap doubled from $150 to $300B. Total lithium equity market grew this year from $25B to $50B, one-sixth the size of crypto. Lithium developers and producers have a very proven and clear path to high profitability. Bitcoin business models?"*



Forest Hills

Alpha Generation

I continue to encourage traditional institutional investors to **PAY ATTENTION:**

Lithiumionbull @HowardKlein10 · Nov 28
Thx @EnsorPensor for @Investinmining London color. Smart $ instos usually lead strategics. Not so #lithium equities. Strategics & Joe Battery-pack retail stealing insto ALPHA. We are Maturing on Optimism, nowhere near Euphoric.

> **Paul Ensor** @EnsorPensor
> 121 Mining Conference in London is day of contrasts: in the morning the Great and the Good of fund Mgt - Blackrock, First State, Sprott all declare lithium sector over done and over bought.

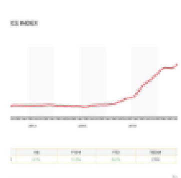
Don't Benchmark Hug!

Hug Benchmark!

Lithiumionbull @HowardKlein10 · Oct 29
@benchmarkmin is better lithium price forecaster than Macquarie/Bernstein. 2017-20 Li Carbonate: $13,000. 2017-20 Li Hydroxide: $18,000.

> **Benchmark Minerals** @benchmarkmin
> Lithium processors prepare to meet demand | ShanghaiDaily Mobile
> mobile.shanghaidaily.com/business/autot…

Lithiumionbull @HowardKlein10 · Sep 27
Commodity Investing 101: Commodity Equities follow Commodity Prices. #lithiumSA. #tippingpoint



> **Simon Moores** @sdmoores
> It's easy to pour cold water on lithium, been flavour of the for 3 years now. But fact is prices still rising. EV rubicon has been crossed

Generation Alpha

@benchmarkmin, @sdmoores

October 2017: Witness at U.S. Senate Committee on Energy & Natural Resources

Forest Hills

Lithium Scoreboard, November 30, 2017

Mr. Market took a #relativevalue turn with the Big 5 on balance selling off, while Emerging Producers took another strong leg up. Interestingly, the Total Lithium Investable Market Cap I calculate actually fell in November – though small in percentage terms, the nearly $3B fall in the Big 5 exceeded the ~$1B+ collective uplift in the Emerging Producers. Argentina brines saw big interest following the great showing of the "Let's Change" party in Parliamentary elections and well attended investor site visits at **ORE, LAC, ML, NLC** and **AAL.**

Pricing as at end of trading day, Nov 30 2017						
Big 5 Producers	**Exchange**	**Mkt Cap (M USD)**	**Share Price**	**YTD**	**1m**	**3m**
Albemarle	NYSE	14,840	$ 134	56%	-4%	17%
SQM	NYSE	14,580	$ 54	90%	-9%	18%
FMC	NYSE	12,670	$ 94	67%	2%	12%
Tianqi Lithium Industries	SHE	8,813	$ 61	89%	-15%	-10%
Ganfeng	SHE	7,754	$ 73	177%	-13%	-1%
Big 5 Producers Investable Market Cap		**34,002**	(adjusted for ALB, SQM, FMC lithium biz)			
Emerging Producers						
Mineral Resources	ASX	2,767	$ 19.5	61%	8%	31%
Pilbara Minerals	ASX	1,300	$ 1.05	111%	31%	193%
Galaxy	ASX	1,172	$ 3.85	47%	39%	97%
Orocobre	ASX	998	$ 6.26	48%	11%	119%
Lithium Americas	TSX	930	$ 13.56	239%	34%	122%
Nemaska	TSX	586	$ 2.00	61%	8%	64%
Altura Mining	ASX	536	$ 0.41	200%	14%	145%
Kidman Resources	ASX	421	$ 1.59	170%	31%	136%
Neometals	ASX	189	$ 0.46	37%	10%	67%
Bacanora	AIM	152	$ 97.66	42%	16%	16%
Emerging Producers Investable Market Cap		**$ 7,114**	(adjusted for MIN's lithium biz)			
Development & Exploration						
AVZ Minerals	ASX	310	$ 0.23	1543%	-4%	77%
Millennial Lithium	TSX-V	215	$ 4.33	207%	85%	231%
Global Geosciences	ASX	213	$ 0.22	226%	-7%	-2%
Critical Elements	TSX-V	179	$ 1.55	204%	-10%	-8%
LSC Lithium	TSX-V	176	$ 1.61	15%	8%	35%
NeoLithium	TSX-V	173	$ 2.10	96%	0%	118%
Argosy Minerals	ASX	152	$ 0.23	693%	2%	48%
Wealth Minerals	TSX-V	146	$ 1.94	55%	4%	10%
Lithium X	TSX-V	145	$ 1.99	-11%	-1%	0%
Tawana Resources	ASX	141	$ 0.37	222%	3%	72%
Alliance Minerals Asset Ltd	SGX	134	$ 0.33	257%	-17%	30%
Advantage Lithium	TSX-V	126	$ 1.19	23%	40%	190%
Standard Lithium	TSX-V	116	$ 2.47	349%	17%	135%
Liberty One Lithium	TSX	77	$ 1.50	168%	-24%	88%
Piedmont Lithium	ASX	75	$ 0.18	157%	-10%	73%
Frontier Lithium	TSX-V	72	$ 0.67	158%	52%	103%
Birimian Ltd	ASX	71	$ 0.48	45%	41%	113%
Sayona Mining	ASX	58	$ 0.05	71%	112%	253%
Lithium Power International	ASX	57	$ 0.52	79%	32%	59%
NRG Metals	TSX-V	45	$ 0.57	418%	36%	500%
Pure Energy	TSX-V	41	$ 0.44	-23%	0%	-19%
European Metals Holdings	AIM	40	$ 0.70	15%	4%	-8%
Lithium Australia	ASX	36	$ 0.19	31%	-10%	58%
Lake Resources	ASX	33	$ 0.19	222%	52%	280%
Development & Exploration Investable Market Cap		**2,832**				
Total Investable Market Cap		**43,947**				

Mr. Market is suggesting favorites of mine **Millenial** and **Neolithium** have a good chance to follow in ORE and LAC footsteps. **ML** jumped to #2 behind the **World's Worst Located Lithium Project (La Guillotine)** after very rapidly receiving a $30M check from the largest Chinese solar manufacturer -- I suspect to see more open-wallet China investment to this high priority sector following the conclusion of the most recent Chinese Congress. **NLC** also raised $30M in a traditional institutional bought deal, which, like Millennial's deal, had no warrant attached.

Joe Battery-Packs like Fred Flintstone -- or Donald Trump – are happy to pat themselves on the back:

Lithium Bull, July 4, 2017

What say Mr. Market, observing the below public lithium equity scoreboard at half-time 2017? Some observations on that which I highlight below in beige:

- If you want liquidity, list in Shenzen, or NYSE – or, Singapore?!
- Emerging Producers deep in the red look tempting if you believe lithium demand is far more likely to outstrip supply for 4-5+ years with sustained high lithium prices:
  - But you'll have to take a long view, as trading liquidity, with only a handful of exceptions, is appallingly low.
- Bald Hill (**Tawana/Alliance Minerals Asset Ltd**) and Earl Grey (**Kidman**) are more valuable Oz hard rocks than shovel-ready **Altura's** Pilgangoora?
- Rebounding **Orocobre** overtakes DSO-spooked **Galaxy** during Q2.
- Among TSX-listed Argentine brine explorers, Orocobre affiliate **Advantage Lithium** suffered disproportionate carnage, while **Millennial Lithium** has had best performance YTD.

Big 5 Producers	Exchange	Mkt Cap (M USD)	Share Price	YTD	1m	3m	1 yr	Volume (3m) Shares	Daily Trading Value
Albemarle	NYSE	$ 11,810	$ 106	23%	-7%	1%	31%	1,170,000	$ 124,020,000
SQM	NYSE	$ 9,110	$ 33.25	16%	-8%	-3%	64%	1,040,000	$ 34,580,000
Sichuan Tianqi Lithium Industries	NYSE	$ 7,848	$ 54.45	68%	30%	26%	28%	21,850,000	$ 172,425,000
Ganfeng	SHE	$ 4,494	$ 46.70	76%	18%	13%	40%	25,520,000	$ 172,722,319
FMC	SHE	$ 9,740	$ 72.96	30%	-4%	4%	59%	1,080,000	$ 78,796,800
		$ 24,687	(adjusted)						$ 582,544,119
Emerging Producers									
Mineral Resources	ASX	$ 1,463	$ 10.4	-14%	3%	-2%	24%	1,440,000	$ 11,242,800
Orocobre	ASX	$ 546	$ 3.46	-24%	-9%	24%	-27%	568,052	$ 1,474,095
Galaxy	ASX	$ 477	$ 1.61	-39%	-28%	-26%	-36%	4,260,000	$ 5,143,950
Pilbara Minerals	ASX	$ 407	$ 0.37	-26%	-12%	-9%	-40%	3,970,000	$ 1,101,675
Lithium Americas	TSX	$ 243	$ 0.87	9%	-5%	-13%	-20%	422,653	$ 275,781
Nemaska	TSX	$ 240	$ 0.98	-21%	-17%	-25%	-18%	641,762	$ 471,695
Altura Mining	ASX	$ 145	$ 0.13	-7%	-9%	-17%	-38%	697,917	$ 65,430
Bacanora	AIM	$ 117	$ 0.78	23%	-12%	-6%	-23%	117,055	$ 68,038
Neometals	ASX	$ 112	$ 0.27	-19%	-6%	-13%	-41%	515,697	$ 104,429
		$ 3,748							$ 19,947,893

Also, **Millennial Lithium**: Lithium-ion Bull October 2, US & Them:

Millennial Lithium

- ✓ **New CEO:** Proven jockey **Farhad Abasov** – 3 major successes: 2015: Sold Allana Potash to Israel Chemicals for CAD 170M. Co-founder of Potash One sold in 2010 for CAD 434m to K + S. Key management member of Energy Metals, sold to Uranium One for CAD 1.7B in 2007.
- ✓ **Technical Team: Iain Scarr,** who prepared Galaxy's original DFS, plus strategic advisor **Vijay Mehta** – ex-FMC, 40 years brine project management expertise.
- ✓ **Stage of Development:** 100%-owned flagship **Pastos Grandes** has had significant work done by Eramine, so is further along the development path.
- ✓ **Capital Structure/Skin in the Game:** Clean and uncomplicated. Low shares outstanding, stock above $1. High insider ownership. Founding shareholders have participated in all rounds of financing; also loaned $2M to the company to purchase land position to grow the acreage of its flagship Pastos Grandes project by 40%+
- ✓ Near-term Milestones/Catalysts:
  - Q4 2017: Maiden Resource
  - Q1: Preliminary Economic Assessment

As of the end November, non-producer **PLS** had a higher market cap than producers **GXY** and **ORE** (should this be the case?), and all are now USD Unicorns (this should be the case!) with LAC not far behind. Across global equity markets, I suspect December should witness continued re-investment and window dressing in themes that have worked this year, though the details of US Tax Reform, while broadly market positive, are creating some irregular renewable energy heart BEAT:

https://www.greentechmedia.com/articles/read/in-senate-tax-bill-beat-isnt-sole-provision-harmful-to-renewables#gs.w=Cu=b8

A Known Unknown.

I expect the same next month too, as 2018 asset allocation changes to 2017's winners create a bit of a January effect in lithium land – Tesla and the US is A story, not THE story, to parrot a now familiar refrain from he who also anointed the Lithium Star Alliance.

China in pole position amid 'desperate' global race to secure lithium ...
China is outpacing the U.S. and other countries in a global race to secure supplies of an all-important element for electric cars.
cnbc.com

https://www.cnbc.com/2017/12/04/china-in-pole-position-amid-global-race-to-secure-lithium-supplies.html?__source=sharebar%7Ctwitter&par=sharebar

I anticipate a lot of financing in Q1/Q2 2018 as uncompleted 2017 financings get done – perhaps **Nemaska, Bacanora** and/or **North American Lithium.**

And M&A. ALB has been very vocal about its financing capacity and interest to buy – and they have a history of paying up for producing assets. KDR was surely in play this year, but I'm not sure greenfields are ALB's bag -- SQM is the Smooth Operator in this regard. ALB's been in the press of late jawboning about value/asset life, which prompted the following potential shopping list:

> **Lithiumionbull** @HowardKlein10 · Nov 20
> $ALB talking down Jr valuations is rich. Lots of long lived value out there. XMAS options for $1-2B cash: $AJM $LAC $ORE $BCN $NMX $KDR
>
> > **Joe Lowry** @globallithium
> > Almost comical department: $ALB seems to be the "pot calling the kettle black" here. Juniors are only following Cool Hand Luke's lead inflating their future production potential. Mr Tozier: how is LaNegra II coming along?
> > afr.com/business/minin ...

http://www.afr.com/business/mining/lithium-juniors-inflating-asset-sizes-albemarle-20171117-gznday

I added three new names to the November lithium scoreboard, all now above $50M market cap, including **Standard Lithium** (Californa Brine) and **Liberty One** (Argentina brine), which I know very little about, but sense, like many others on this list, could be deleted within the next 12-24 months, as I deleted **Avalon** this month. I also note the sudden rise in **Sayona Mining**, a company with a low-grade Quebec resource and old PFS and signed "an MOU to advance discussions" with a subsidiary of China MinMetals.

Before I get to (Nicole) Kidman, I will (red, white and blue) flag that which has morphed from American Girl Charlotte to Uptown Girl Christie Brinkley meets The BOSS. **Piedmont Lithium** gave back 10% in November after rising 50% from its heavily institutionally subscribed $16M equity placement, and as its US ADR began trading in November at ~$US 15.

I'm not a huge fan of most Christmas music now blaring in every store, but, as it was just #GivingTuesday, and as regular LI Bull readers have no doubt been nice and not naughty this year, some Carolina spodumene is likely deserving in your Christmas stocking. Consider this my year-end gift!

https://www.youtube.com/watch?v=76WFkKp8Tjs
Santa Claus is Coming to Town (Bruce Springsteen)

> **Lithiumionbull** @HowardKlein10 · Nov 28
> MORE DRILLING NEWS: Piedmont Lithium. "Our team has discovered a world-class mineral system with over 30 pegmatite bodies over a combined 4+ km of strike length, virtually all within 100 meters of surface." $PLL $PLLLY Born in the USA. Born to Run.
>
> **Further High-Grade Assay Results Continue To Ext...**
> ir.piedmontlithium.com

https://d1io3yog0oux5.cloudfront.net/_7ca31abba843a1ef1a14799cc7a308c8/piedmontlithium/db/336/2321/pdf/171129+-+Further+High+Grade+Phase+2+Drill+Results_Final+Draft.pdf

The KiDs R Alright: Long Live Rock

A REPRISE from my Sept 28 curtain raiser – Who's Next: **Bargain.**

Worth a (Re)Read: https://www.linkedin.com/pulse/kidman-resources-new-nickname-howard-klein/

Lithiumionbull @HowardKlein10 · Nov 28
NEWS: Bargain $KDR @KidmanResources. Impressive drill results at Earl Grey. Consistent Hi-grade intercepts in preparation for mineral resource upgrade. Bigger and Better. Long Live Rock.

"Jack is in the alley selling tickets made in Hong Kong
Promoters in the pay box wondering where the bands gone
Back in the pub the Governor stops the clock
Rock is Dead the Say!
Long Live Rock!"

Blue Sky from Blue Ocean

Kidman hosted a site visit during October with a number of sell-side analysts, which has resulted in Steuart McIntyre of Aussie broker Blue Ocean Securities initiating KDR as its Top Pick in the ASX lithium space. I've found Steuart and Blue Ocean get behind only a few high-conviction calls and have had an exceptional track record with a 2015/16 Top Pick, PLS.

http://kidmanresources.com.au/live/wp-content/uploads/2017/11/KDR-2017-Nov-20-2008.pdf

BLUE OCEAN EQUITIES — KIDMAN RESOURCES (KDR)

KIDMAN RESOURCES (KDR)
INITIATION: Could KDR be the best of both worlds? Our Top Pick in the ASX lithium space

Analyst: Steuart McIntyre
Email: steuartmcintyre@boeq.com.au
Phone: +61 2 8072 2909
Date: 20 November 2017

We say	Price	Target	Strategic Target
BUY	1.30	2.50	4.00

We believe Kidman has the potential to become a $2-3bn company over the next few years through its JV with SQM at the Mt Holland integrated lithium project in WA. The CEO of SQM has also indicated he expects Mt Holland to be at the "low-end of the cost curve" – a potentially industry changing development… and one which we believe puts Kidman on track to become *the* preferred institutional ASX lithium play over the next few years. KDR is our Top Pick in the ASX lithium space.

I suspect other sell-side analysts may initiate soon as well. KDR/SQM/Mt. Holland is a Tier One project -- to have credibility covering the ASX lithium universe, it is essential to be publishing on this name.

I concur with much of Stueart's analysis and, as I said in September, I believe the KDR movie will unfold in a quite similar manner as has LAC, once studies are published and other milestones are publicly announced by both SQM and KDR.

I flag as well Steuart's follow up after last week's strong infill and extensional drilling results at Earl Grey:

- ***Increased strike length****: An increase in the known strike length from 1.4km to over 2km (and remains open)*
- ***Thickening zones of mineralisation****: Extensional drilling east and north confirms strong continuity and* ***thickening pegmatite zones*** *(results like 78m @ 1.84% Li_2O...More results below)*
- ***High grade intercepts****: Many of the drill results hit wide zones of mineralisation at higher grade than the resource grade of 1.44%... which in our view bodes well for a potential increase in the resource grade*
- ***"Material" resource upgrade due in March 2018****: Combining the points above, it is no surprise to us that Kidman expects to release a "material" resource upgrade at Earl Grey in March 2018*

Improving Scalability

One of the most important qualities major mining companies look for in a mining asset is scalability – that is, the ability to expand the productive capacity (longer term) to much higher production rates. The scalability of Earl Grey is already compelling… and it is now set to get better. To illustrate:

- *In its recent Scoping Study, on the existing resource of 128mt @ 1.44%, Kidman highlighted potential for an optimised pit of 109mt @ 1.4% with a strip ratio of only 3-3.2:1*
    - *At a 2mtpa rate and 60% recovery, Earl Grey could provide ~300ktpa of conc to a 40ktpa LCE refinery for 55 years*
    - *But if recoveries can be improved to 80%, the Earl grey plant would only need to be 1.5mtpa to produce 300ktpa of conc, feeding a 40ktpa LCE refinery for* ***73 years***
- *Which suggest to us, the existing resource is potentially cable of supporting a refinery of:*
    - ***40ktpa*** *LCE for* ***73 years***
    - ***80ktpa*** *LCE for* ***36 years***
    - ***100ktpa*** *LCE for* ***29 years (pre-any resource upgrade!)***
- *With a 'material' resource upgrade at Earl Grey expected in March 2018… we believe KDR's integrated Mt Holland operation could have potential longer term to become* ***one of the largest lithium operations in the world.***

Long Live Rock!

A young WHO, 1973, Live on the BBC: https://www.youtube.com/watch?v=maD5k-vUI4o

Does lithium land really need to build a hard rock lithium mine and processing facilities in DRC?

Disclaimer

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