# Gianni Kovacevic with John Kaiser on China and Deglobalization of the Rare Earths Industry

"What enabled China to do so well was this whole concept of globalized trade...It became a thing of who can produce the metal the cheapest and who will pay the most for it. Everything went all around the world to whoever wanted it. It was in this context of globalization that the rare earth mania 1.0 happened. It was, I believe, a major blunder by China." States John Kaiser, Founder of Kaiser Research Online, in an interview with Gianni Kovacevic, CEO of CopperBank Resources Corp. (CSE: CBK).

John went on to say that China controls more than 90% of the world's rare earths and how a skirmish with Japan panicked the market and caused a 10-20 fold increase in rare earths prices. He continued, "To some degree this was a strategy by China to force technology to move to China where they could have access to these rare earths without worrying about it…now we have something weird happening. We have deglobalization happening and that changes the logic completely."

Now we are witnessing well known Silicon Valley investors funding a re-floatation of Mountain Pass citing the very reasons John and Gianni have been saying for some years and touch on throughout this detailed conversation... to access the full conversation, click here

# Jack Lifton on MP Materials (Molycorp) Return

"Molycorp spent \$1.8 billion to redevelop the (Mountain Pass) mine and vertically integrate that output through a separation plant to salable, separated rare earths products. It didn't work. At the end they were not able to operate the separation plant, Project Phoenix, and the company shutdown because it ran out of money." States critical materials expert Jack Lifton, in an interview with the Technology Metals Show hostess Tracy Weslosky.

Jack went on to say, "Two years later a company that became MP Materials purchased the mine and the refinery project from the bankruptcy trustee and they began to operate it as a mine. In the last 12 months that mine has produced 50,000 tons of rare earths concentrate containing 12,000 tons of rare earths included in which are about 2000 tons of magnet metals, neodymium and praseodymium, which could make 6000 tons of magnets."

In the interview Tracy and Jack discussed some of the challenges awaiting MP Materials in becoming a vertically integrated domestic rare earths company. Jack also provided an update on Lynas and explained how it will be affected as MP Materials progresses with its plan.

To access the complete interview subscribe to the **Technology Metals Show** and get exclusive access to member only content through this exclusive site! Or Log-In Here for the latest conversations, debates, updates and interviews with the leaders, thought leaders <u>and</u> investors focused on issues relating to sustainability in the critical materials sector.

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# Jack Lifton and Pini Althaus on USA Rare Earth's mine to magnet strategy

"You have formally announced a mine to magnet strategy. In the rare earths business, we have seen this before, in the round one of the rare earths boom in around 2011 or 2012. A company no longer in existence called Great Western Minerals announced a mine to magnet strategy. Then Molycorp announced a mine to market strategy. Neither of those companies ever achieved anything like that and neither of them advanced to where you have advanced which is the separation of the heavy and light rare earths. I would like to know if you are planning a vertically integrated company which would be not only mining and refining but producing metals and alloys and fabricated magnets" Asked Jack Lifton, critical materials expert and Technology Metals Show host, in an interview with Pini Althaus, CEO and Director of USA Rare Earth LLC.

Pini replied, "The difference here is between announcing strategy verses implementing strategy and we have been very careful to annouce things as they actually take form and become a reality."

To access the complete interview subscribe to the **Technology Metals Show** and get exclusive access to member only content through this exclusive site! Or Log-In Here for the latest conversations, debates, updates and interviews with the leaders, thought leaders <u>and</u> investors focused on issues relating to sustainability in the critical materials sector. For more information on the **Technology Metals Show** email us at info@technologymetals.com or reach us direct at +1 (416) 546-9233

# American Industrial Policy Regains its Mojo

The U.S. Federal Department of Energy has taken a significant step in the creation of an American industrial policy for a specific (group of) critical natural resource(s) - in this case. the Rare Earths. Late last week the Office of Fossil Energy at the U.S. Department of Energy selected three applicants from more than a dozen to receive up to one million dollars each to investigate processes such as the one winning submission entitled "Recovery of Rare Earth Elements from Coal Mining Waste Materials FOA -000127"." The FOA was itself entitled "Production of Salable Rare Earth Elements [emphasis mine} from Domestic U.S. Coal and Coal By-Products." One of the three awards (entitled as above) went to Inventures Renewables Inc, which has developed a system combining continuous ion exchange, CIE, with continuous ion chromatography, CIC, to separate mixed rare earth solutions into high purity individual rare earth salts. Inventure was partnered with Texas Mineral Resources Corp. (OTCQX: TMRC) a junior Rare Earth mining venture which, in the interests of full disclosure, I am on the advisory board thereof. The CEO, Dan Gorski, drafted the part of the submission that dealt with extracting the rare earths from the coal mining by-products and concentrating them into a pregnant leach solution, i.e. "building a mining operation." This is the first time that any U.S. governmental entity has "invested" in a new or newly applied technology for the separation and purification of

"all" of the rare earths by a non-solvent extraction method.

It was a group at the Department of Materials' Science at Pennsylvania State University that discovered two years ago as part of a DoE grant that there was a significant rare earth content (thousands of parts per million) in the clay overburden extracted when strip mining certain coal deposits in the eastern United States. Further they determined, surprisingly, that these rare earths were ionic and adsorbed so that like the well-known Chinese "ionic clays" they could be extracted from the clay by a simple wash with an aqueous solution of a common and essentially non-polluting (it is in fact a fertilizer) chemical, such as ammonium sulphate, again just as the Chinese miners do.

Another winner in this first round, Equinox Chemical, will utilize IBCAT's MRT system to accomplish the primary goal (proof of concept) and the secondary goal (a profitable rare earth products' production system).

After the first responses are evaluated the DoE reportedly may dedicate more than 20 million dollars next year to underwrite most of the construction of a commercial plant using the chosen new or newly applied technology.

I believe that the DoE decided to investigate whether or not there might be a way to develop a coal industry offshoot, rare earth mining, to help create jobs in areas where hard coal mining is declining rapidly due to environmental concerns. Rare earth mining, it must have been reasoned, could be a twofor; not only would it create jobs it would also advance the US towards a desirable goal of self-sufficiency in the critical rare earths needed for the alternate production of energy, which goal is what is driving the coal mining industry down the path to extinction.

The major problem, as the DoE engineer/scientists realized was that there is no rare earth separation capacity operational in

the USA and the cost of constructing a traditional separation facility, a solvent extraction plant, is prohibitive, even as an experiment, besides the fact that such plants take years and specialized skills to bring into operation efficiently, as has been evidenced in the US in recent years.

To the credit of the DoE's perceptive scientific staff they realized that this could be an opportunity to look at new and newly applied methods of rare earth separation especially those that might be cheaper and easier to run than solvent extraction.

As I understand the DoE project it is to determine whether or not a low cost extraction (mining) and separation system can be devised to create an environmentally secure system for the economic and efficient recovery of the rare earths from coal mining residues such that even when separation costs are included the "mine" will be able to deliver commercially purified separated salts of the individual (and selected mixes of the) rare earths to a rare earth metals and alloys makerhopefully in the USA (and there are two viable candidates at this time), who will then deliver rare earth magnet alloy to any one of several American magnet makers that either today use Chinese, Vietnamese, or Japanese imported alloy to produce American "manufactured" rare earth permanent magnets or having done so in the past still retain the ability to do it.

The "coal" project's ultimate goal is an actual vertically integrated (from the mine to the separated individual salts and mixtures) rare earth production plant. The first level awards will be used to demonstrate the feasibility of the selected "mining" and "refining" processes; the next level of awards will be for sufficient money to build and operate an actual integrated rare earth salts and blends production plant. This plant will have to be able to be a lowest cost operation. The difference between today's DoE and yesterday's is striking. The previous administration's DoE just poured more than 500 million dollars into building a solar cell factory without ever having proven that the technology to be used was scalable could be operated economically and competitively. This became a very costly failed "experiment." Today's DoE knows, as all professional engineers do, that a demonstration plant must precede a full scale plant in order to prove the applicability and economic efficiency of any technology.

I have no direct knowledge of the technologies or models to be used by the two other winners of this FOA, but I wish them luck.

Finally I need to note that the Department of Defense, the DoD, is fully aware of the DoE project and to its credit will in the very near future be awarding a grant to do a pilot project on recovering rare earths for re-use from industrial/consumer/military scrap using one of the above nontraditional separation technologies, and I know they will both work. I also note that the DoD's DLA has already looked at CIX/CIC for the purification of selected rare earths and has found that technology to be applicable and efficient. The change of administrations in Washington seems to have been very beneficial for breaking the logorrhea jam.

Thus the DoE and the DoD are taking positive steps to reduce American reliance on foreign sourced rare earths. They are both putting (our) money where their mouths are while Congress dithers with a "METALS" Act that will be too little, too late.

I see this as more than baby steps towards an American industrial policy on critical materials.

I congratulate both the DoE and the DLA, the arm of the DoD that is sponsoring the separation technology research.

# The US rare earth vulnerability and mammoth battery supply disconnect

The most startling act of cognitive dissonance in the mining space in this day and age is amongst those investors and analysts that enthuse about Lithium, Cobalt, Graphite and yet cannot raise an eyebrow for Rare Earths.

The thesis is rather simple. If you believe that we are on the cusp (or indeed already in) of a massive surge in adoption of EVs and HEVs and therefore the batteries for these vehicles (primarily the Li-Ion battery format) will rule the Earth then how can one not also posit that the type of engine that dominates the same vehicles will have a proportionate need for the Rare Earth magnets produced from Neodymium and Praseodymium. If one is disturbed by potential shortages of Lithium and Cobalt, then why no sleepless nights about Rare Earths?

### Alarm Bells?

It seems that concern is rising but not amongst investors. Then again how real is any professed concern if it doesn't lead to action? Japanese and Korean companies have supposedly been concerned for a decade now about their dependence upon Chinese REE (rare earth element) sources but what has it actually prompted them to do? Sure we had some Japanese prominently and publicly support some of the most notorious fakers in the Canadian REE space during the last boom but they got burned when they discovered they had been snookered by the perennial promoters with zero intention of ever moving to production. On the rebound the Asian end-users retreated into their shells but that doesn't put bread on the table when one is facing an imminent supply crunch. The Europeans are just as vulnerable, if not more so. In a recent JRC study, presented at the 9th Conference of the European Strategic Energy Technology Plan, the following was noted:

"The EU resilience to supply bottlenecks is currently low for several materials, such as the rare earths — neodymium (Nd), praseodymium (Pr) and dysprosium (Dy) — used in permanent magnets for wind and electric vehicles technologies, as well as for graphite (C) required in electric vehicles rechargeable batteries. Moderate supply issues are seen for indium (In), silver (Ag) and silicon (Si) required in the photovoltaic technology as well as cobalt (Co) and lithium (Li) requisite in electric vehicles."

Interesting to note that the hot metals *du jour*, Lithium and Cobalt come at the end of the list of problem metals. And well they might. At least Lithium has three large cartel members (plus Galaxy and Orocobre) churning out product, while REEs have no meaningful suppliers outside China beyond Lynas.

The JRC report produced this interesting diagram showing resilience currently and 15 years out. What they call (in EU-speak) conservative means pessimistic and then they have an optimistic scenario. Interestingly Neodymium and Praseodymium both remain mired in the Low Resilience (read "poor supply") category even in the optimistic scenario.



The resilience to supply bottlenecks for carbon fibre composites (CFC) used in wind turbine blades is evaluated as high. The demand for Selenium (Se), Copper (Cu),Ggallium (Ga), Tellurium (Te) and Cadmium (Cd) in photovoltaic technology is very marginal compared to the global supply. Therefore, for these materials the estimated EU resilience is also high.

### An Aside on Trumpism

Initial signals are that US relations with China have a potential to get rather hairy. As we well recall, half a decade ago, a scuffle between Chinese fishing boats and a Japanese Coast Guard vessel resulted in a shutdown of Chinese REE exports to Japan, with a cascade effect into global pricing. At least the Japanese had plants in China that could work around the problem. The US on the other hand has almost zero access to Rare Earths. First lesson when one starts rattling a sabre is make sure one has a sabre to rattle. The US is especially vulnerable to a REE clampdown by China. With the Japanese having helped Lynas through its dark period, they are first in line for product from the source and as for other sources the US automobile industry might tap, there are pretty much none that come to mind. An incident (or incidents) of sharp elbows and jostling with China (over the South China Sea or even just imposition of tariffs or being labelled a currency manipulator with all the spill-over effects from such a designation) could see an official (or unofficial) clampdown on REE exports to the US. This is exactly what the Pentagon has feared for a long time now and which Congress, and successive Administrations, have ignored.

Nothing would focus attention back onto Rare Earths like such a moment. However if China wanted to get around WTO rules, it might just squeeze supply and implement an export (or reexport) ban to the US in a *sotto voce* manner so there is nothing officially that the US can lodge an appeal over. What more tangible response could the US make? Well, Molycorp's Mountain Pass might have life breathed back into it, but with every day of inactivity the chances of reviving it and particularly of reviving it quickly becomes more distant. Nothing else is even remotely advanced in North America with the "nearest" projects that could be ramped up in Africa and Australia and even those are not something that would plug the hole made by a sudden escalation of hostilities (trade or otherwise) with China.

Beyond this there is the issue that even if things don't get militarily heated the prospect of duties of 20% or more on REE magnets imported from China changes the equation for US production. While Mountain Pass had its own unique limitations it certainly would have been helped in its heyday by hefty duties on competing product.

If US automakers intend to address the issue of REE magnet supplies over the next ten years with any more intensity than their current lackadaisical approach then they will need to start backing some potential "winners". That most North American REE wannabes have abandoned the fight doesn't help but we certainly know where the "bodies are buried". Many of those projects were not going to fly but a handful of them would be viable if reconfigured to size and throughput (and bite-sized capex) more fitting to the current straightened times. Jack Lifton said it seven years ago that projects had to be right-sized and he was paid scant heed. We are at the dawn of the age of the REE mammals now that the REE dinosaurs have gone to the boneyard of history.

### Conclusion

The Chinese grip on Rare Earths is no less than it was in the days of Great Panic. Indeed in those days there was at least hope that several handfuls of projects were advancing and that the West would become self-sufficient. Those dreams were blown away in an ego rush by promoters and arguably more destruction of value was wreaked in the REE space than ever was done by Bre-X, for instance.

The clear inconsistency between thinking that EVs and HEVs are the way forward, and yet that REEs are "not important" or "crisis averted", is the great fallacy of our times. If one feels that Lithium, Cobalt and other battery metals are in critical short supply then the situation is worse in REEs where future sources of production (even in China) are unclear to say the least.

The trigger for this "wake-up call" might be a Trump-induced trade tussle with China (or worse) but it might also be a creeping realization by automakers et al. that they have almost no guaranteed source of supply and that if the soaring production projections for EV/HEVs come to pass then they will need to be running without engines!

In conclusion we would note that last week, in what we might call the first swallow of the REE summer, we received a call from a private equity group asking us what might be available in REE projects left unloved after the boom. It did not take us long to name three at least that were lying fallow and still worthy of attention. We would humbly suggest that now is the time to get positioned because a hell of a problem is brewing in the area of REE magnet availability.

### Lynas – Barbarians at its Gate?

It's easy in all the euphoria currently swirling in the Lithium to forget that Rare Earths and Lithium were mentioned in the same breath as "no-hopers" only a few years ago. The factors that made Lithium what is was also held true for Rare Earths.

Let's look at it. Both bubbled to the surface as sexy new things in 2009-10. A lot of press ink was spilled and scores of new vehicles were created. As we have often sustained the appearance of REEs "saved" Lithium from a similar bubble to be burst. Lithium plays were probably around 30 in number (and only 20 of any real substance) when REEs burst on the scene and created 100/200/300 listed plays (depending on your calculations). If REEs had NOT appeared then Lithium too would have been massively overpopulated. When it came down to it, there were two REE plays that got across the production line (Lynas and Molycorp) and only two new Lithium plays managed the same feat (Galaxy and Talison) and even in the case of Talison it was the reopening of an existing Lithium mine. Indeed, like REEs, there was attrition in the producers with Galaxy selling its plant in China and shutting its mine in Australia (Mt Cattlin). Sounds rather like Molycorp, except

that Molycorp went bankrupt while Galaxy has lived to fight another day. And then there was one, Lynas in Rare Earths and Talison (bought in the meantime by Tanqi and Albemarle/Rockwood).

At the darkest hour the few score Lithium plays had shrunk to a mere handful while the REE space had shrivelled from hundreds to little more than ten still in contention (companies like Alkane, Peak, Ucore and Search).

Then began the Lithium renaissance and the rest is history there. However in the Rare Earth space the turn is yet to come. The creation of the first "new" listed REE entity would be a sure first swallow of summer. However, even with ten projects still plugging away, there is probably enough available in terms of doable projects to create a viable Western REE industry without new talent appearing. Ironically Jack Lifton exhorted the industry to "right-size" its projects and yet it's been Darwinian forces beyond the industry's control that "right-sized" the REE space down to the couple of handfuls we have today. It's like the Poseidon Adventure of the mining space. Only a few get to reach the light.

#### Who is the New What?

For a while it looked like the old Lithium boom had spawned Talison as the only actual producer, as Galaxy started up then abandoned production. Orocobre and Rincon nearly got their salares to production but seemed to get lost on the final leg. If we continue the analogy then the surviving producer in the REE space (i.e. Lynas) is analogous to Talison. And yet Talison was snapped up for over \$700mn in a takeover and Lynas still wallows at a valuation of less than a third of that takeover. The question that arises is why should there not be a premium for survival afforded to Lynas? It is the only takeover prospect in the REE space, indeed the only producer. It is, as they say in the trade, Plug-And-Play. Virtually all the rest of the universe of REE wannabes require higher REE prices to trigger a start on their projects. Even if viable at current prices, they need the price to move higher to stimulate investors to fund them. But if one posits a rise in REE prices (which we do, excepting for Cerium) then the first mover will likely be Lynas, not Tin Pot Rare Earth Mines, because it will be Lynas that can send higher prices cascading from a more robust topline down to a healthier bottom line. Meanwhile Tin Pot Rare Earth Mines will only be able to dust off their begging bowl and set themselves up on a hot air vent on Bay Street to rattle it with gusto at the passing punters.

As we can see from the chart below, Lynas has been essentially flatlining since the start of 2015, surely there should have been at least some uplift in the price for the changed perceptions in the marketplace of the prospects of the specialty metals sector.



### Back to Basics

There is now nothing to compare Lynas to in the REE space, with the demise of Molycorp. Indeed it could be said that Lynas's financial are unique and incomparable! Therefore we offer the latest earnings statements for perusal. The more recent quarters are missing a lot of the detail that would make informed decisions easier.

Lynas Corp								
AUD\$ mn	FY10	FY11	FY12	FY13	FY14	FY15	1Q16	2Q16
Revenue	9.13	10.006	1	0.95	64.6	144.6	46.2	49.5
Cost of Sales	2.3			0.95	77.7	168.3		
Gross Profit	9.13	10.006	0.0	0.0	-13.1	-23.7	46.2	49.5
GS&A	16.422	28.97	74.124	125.124	125.1	40.9		
Depreciation & Amortisation	1.158	1.22		10000000000	202202000	0.5105		
Interest expense & finance costs		0.775	7.8	12.6	27.4	37.3		
Other Expenses	9.159	27.015						
Forex Loss (Gain)	-2.337	8.613						
Impairments					-196.4	-16.8		
Other financial charges	27.769	0.701					-	
Pre-tax result	-43.041	-57.288	-81.924	-141.014	-345.4	-118.6		
Tax		1.798	-10.109	2.541				
Post-tax result	-43.041	-59.086	-71.815	-143.555				

It's evident from this that sales are on an upward track even without REE prices having staged a rebound. It the price rises rather than the volumes increases that will put Lynas back in investors' good books. But when it happens it will certainly take by surprise all those who have taken their eyes off this ball.

### Conclusion

The mistakes that Molycorp made could fill a book, but one of the key ones for us was not to have developed a second mine. There were plenty of down and out juniors that could have been snapped up for a song (indeed for MCP stock) and yet it remained wedded to a pit that could never in a million years have provided it with enough of the REE mix that the market wanted.

It will be interesting to see whether Lynas uses an early resurgence in REE prices to add another mine to its harem. Names to conjure with are those with "sightlines" to Malaysia. This would include the likes of Northern Minerals (NTU.ax), Peak Resources (PEK.ax) or Mkango Resources (MKA.v). Maybe even Arafura might be considered if the others did not bite. Alkane's DZP is unique in its multi-metal nature and thus would be beyond Lynas's price range and have lots of products that would not be part of the Lynas flowchart.

Then there is the issue of whether Lynas itself might be a target. Certainly a PE fund might make a run. Even at a hefty premium to its current market cap it would still be quite a lot cheaper than that what Magris paid for the Niobec asset of Iamgold, for example. The Chinese would definitely NOT be allowed near it, but a respectable buyer from Japan or South Korea would not be totally inconceivable.

Therefore in conclusion we would not discount that Lynas may either become an aggressor or a target itself with the very near future. Its days as a bargain buy may soon be numbered.

# Choosing the "Rocky" Road to Rare Earth Production

Here at **Investorintel** we often muse about what can be salvaged from the wreckage of Molycorp and while opinions differ wildly on the residual value of the hardware and real estate (not to mention the intellectual property) there are some assets that were embedded at Molycorp that are infinitely transferrable and indeed have already been transferred.

It was a very interesting move to see Rocky Smith captured by Peak as Chief Operating Officer – Development. This became effective from the 5th of January 2016. He was previously the Managing Director of Molycorp's Mountain Pass Rare Earth complex from July 2009 to August 2015. Essentially Peak has picked up one of the few people with <u>current</u> experience of practical, specialist and technical rare earth operations. His skillset span management, operations and engineering. Most recently he was responsible for operations at Molycorp's mining and processing site at Mountain Pass where he managed 500 employees and an annual operational budget of in excess of US\$150 million. He recruited, developed and led the team responsible for the implementation of the redesigned and expanded Mountain Pass operation. His work included the establishment of management systems, debottlenecking and the delivery of expansion programs which boosted production capacity by 230% over three years.

Between 1989 and 2000 he worked for FMC Corp and between 2000 and 2008 for the Talc miner, Barretts Minerals.

Before that I worked with Eti Soda in Beypazari, Turkey as a technical expert on a soda ash plant start up in 2009. From 2000 to 2008 he was employed by Minerals Technology at their Barretts Minerals property (a talc mine) in Dillon, Montana, most of that time as the Plant Manager with responsibility for everything from the mine thru the facility. From 1989 thru 2000 he worked for FMC, first in gold at Paradise Peak as Chief Metallurgist and then Plant Superintendent, then he moved to the Green River site and again worked as Technical Superintendent for the site and then as an Operations Superintendent for one of their large natural soda ash plants.

In the range of metals dealt with he has also worked in uranium, vanadium, gallium, germanium and base metal sulphide flotation recovery.

He holds a Bachelor of Science degree in Chemistry and has over 35 year's operations and senior management experience in the mineral processing sector. He has relocated from the United States to Perth, Western Australia.

The number people on the planet, who are not Chinese, that know how to put together the soup to nuts of Rare Earths production can be numbered on one hand (and of someone whose lost a few fingers..) so Peak have bagged themselves someone with a "rare" skillset.

### Ngualla

Peak's sole focus is the Ngualla project in Tanzania which it is pursuing in conjunction with its partners Appian and IFC. Ngualla is a large high-grade rare earth deposit, particularly gifted in the magnet metals neodymium and praseodymium. The PFS mooted capex of around US\$367mn, including 30% (US \$85 million) contingency.



Peak has commenced the Bankable Feasibility Study for the Ngualla Project and has appointed AMEC Foster Wheeler as the lead engineer for the study. Early indications are that a rejigged scenario for the production process due out in coming weeks could show a sizeable reduction in the previously mooted capex.

### Prepping the Marketing Effort

Also in the first few weeks of the New Year, Peak announced that Michael Prassas was joining as Executive General Manager – Sales, Marketing & Business Development. He had previously been Global Account Manager for Automotive Catalysis and Sales Manager – Rare Earth Systems for leading global chemical company Solvay. That Belgian group had acquired Rhodia-STER, the large French REE trading house (and chemical company) in 2011.

He was at Solvay from September 2012 where his primary responsibility was for Rare Earth Mixed Oxide sales in Europe and Africa. He over 20 years' experience in sales and marketing (also at OEM and Tom-Tom) with his focus being the negotiation of long-term supply contracts with global accounts and developing business relationships and offtake agreements with some of the world's largest automotive companies.

He has a degree as a Business Economist from the North Stuttgart School of Business Administration where he studied economics, majoring in foreign trade, human resources and financing. He is expected to relocate from France to Perth in the first quarter of 2016.

Clearly Peak are not relying on the failed "build it and they will come" school of thought, that so many others have posited, and want to make sure customers are lined up in advance for Ngualla's output.

### Conclusion

When an explorer moves up to the stage of making the commitment to corraling the team for mine building and operation then one can finally be reassured that the "rubber is hitting the road". The two most recent hires go beyond mere mine-building and are looking to the end production and selling phase. Beyond that Peak has decided to go for heavyweights with experience in the biggest players in the rare earth space.

In particular its hire of the (re)builder of Mountain Pass comes freighted with "lessons learnt" in constructing a major Rare Earth mine. Peak's Ngualla development will be much more bite-sized and with management's feet firmly on the ground the pressure to build something pharaonic will not be there. That Peak feels it can and will be done is further accentuated by the hiring of personnel to move the product out to the marketplace when production starts to roll.

Again, in Peak, we find a case of "hare & tortoise" with a below-the-radar REE hunter moving further down the road to the end goal, verily as some of the household names of the REE space fold up their tents for the last time having burned through enormous piles of money with nothing to show. With the team in place we now await the reformed capex plan in the next few weeks and the move to funding.