

Lifton on China's global rare earth market expansion.

June 9, 2015 – In a special **InvestorIntel** interview, Publisher Tracy Weslosky speaks with Jack Lifton, Founding Principal of Technology Metals Research, LLC and Sr. Editor for **InvestorIntel** on an update on what is 'really' happening in the Chinese rare earth market today and how "they are coming here, whether we like it or not – and we have to accommodate that." Further to this, Jack discusses Rare Element Resources' recent news about their proprietary separation technology, the Tantalus' deal with Shenghe and the German market – with a focus on the roll-out of InvestorIntel.de.

Tracy Weslosky: I'd like to start by discussing the breaking news that just came out from Rare Element Resources.

Jack Lifton: I'm very impressed by Rare Element Resources' announcement. I really had very little advanced knowledge and certainly I don't know any more details of the process than were revealed in the press release. However, I do know all of the people involved. I can tell you that they are far and away the most professional group of chemical engineers, mining engineers that I know of in the space. This is a perfect example of how to do something. They are not talking about conquering the world with their great process. They are talking about solving their problem and I think – I really think they have. I believe we're really at a turning point in America.

Tracy Weslosky: Additionally this month you wrote an excellent piece about how the Tantalus news and how their deal with Shenghe was a real industry and global game changer. Can you tell us what you mean and give us a little bit more of some background on that please Jack? Thank you.

Jack Lifton: What I mean is that Tantalus reached two goals that the entire industry should have been targeting. One is that they got an actual major vertically integrated rare earth company, Shenghe Resources of China, to commit into a contractual relationship taking 30% of their output from their Madagascar mine and investing up to 30% of their capital needs for the development of that project. Second, they got ThyssenKrupp Metallurgical, one of the world's great trading, metal and commodity trading houses to do the same, issue a contract, a real contract, not a memorandum of understanding, to take 30% of their output for sale exclusively into the German market.

Now we've been talking about the German market on InvestorIntel and I have to point out to you ThyssenKrupp is a member of the Rohstoff Alliance. Therefore instead of second hand when they go to a meeting of the Rohstoff Alliance they sit across from companies like Siemens, Bosch, let's say BASF and they say to them, we have material for you. These large corporations, which do not like to deal with midcaps and microcap, say okay, we're in the same club, let's have it checked. That is a hell of an advantage for Tantalus or anybody else who would get such a deal. Now you notice that ThyssenKrupp has also signed a deal with Rainbow in Africa indicating they have a very high confidence level that Rainbow will go into production because it cost ThyssenKrupp money to do these deals. They don't do them as a waste of time because...to access the rest of the interview, [click here](#) and to review, Jack Lifton's background, bio and clients – [click here](#)

Lifton says forget the Wall Street Journal on rare earths.

☒ Yesterday's (May 31's) *Wall Street Journal* had a really poor article about the impending fate of Molycorp, from bankruptcy to failure to meet payment on debts, as it reflects, in the WSJ's opinion, the rare earth market(s).

The rare earth share market "mania" that began in the USA in 2007 when a group of funds and an entrepreneur bought the defunct, moribund, and on "care and maintenance" Molycorp from Chevron with the stated purpose of bringing it back into production was an attempt to "get ahead" of the "market" as then perceived by this group. This original core group of Molycorp investors had noted that a rapidly growing demand for the rare earths in high tech consumer goods was going to have to depend on the tumultuous but unpredictable (with regard to the impact of governance by the state as well as private interests), Chinese domestic economy, because at that time (as it remains today), China was the overwhelmingly largest producer of rare earths.

Today Molycorp has failed as a business even though it has raised and spent between 2 and 3 billion dollars to re-start its California mine and base-level separation facility. The fundamental reason for the failure of Molycorp has been its business model's lack of recognition of the fact that China's success in monopolizing the rare earth space is due entirely to its constructing a total domestic rare earth supply chain feeding into the huge Chinese domestic end user manufacturing industry, which was growing yearly and demanding more and more rare earth enabled components for consumer products and thus driving not only the mining, but also the extraction and separation of the individual rare earths; their transformation

into alloys and fine chemicals; and the transformation of these materials into magnets, lasers, catalysts, and medicinal chemicals in turn to be utilized mainly in the mass produced consumer devices, but also to be used in the global petroleum refining industry and to a small but important extent in the manufacture of military equipment and munitions.

It was apparently only this last use of rare earths that was picked up upon by Molycorp's re-founders and then advertised way out of proportion to its sector's actual revenues as *the* driver for the re-starting of a domestic American mining industry for rare earths. How the transformation of the crudely separated rare earths in California into high tech "smart" weapons was to be actualized did not seem to be of much interest to Molycorp's re-founders. The global exploration "industry" rapidly picked up on the Molycorp Rare Earths' story and by 2010 hundreds of deposits had been found or re-found and given birth to more than 200 "junior (exploration) mining ventures."

Market and pricing studies widely available by 2010 clearly showed the limited extent of the demand for rare earths. These same studies also clearly showed that the most value was added to individual rare earths only when they reached a form from which they could be fabricated into end-use products.

Chinese speculators noted and caught the fever in late 2010 and by manipulating the Chinese market they drove spot prices up to unsustainable heights. This in turn drove the share prices of all of the juniors (defined as non-producing exploration companies) into the stratosphere as Wall Street and Bay Street analysts fell all over each other to "cover" these poorly managed and business-model plan-less ventures and predict share prices based on nothing but a few spot prices in a very opaque market in which no one seemed to notice that supplies continued to flow.

Molycorp alone skyrocketed to a market capitalization of

perhaps 25 times the total market value of its rare earth sector position even while admitting that its cost of goods sold was much higher than the costs then believed to be prevalent in the secretive Chinese rare earth industry. Clearly stock brokers were very poor mathematicians but excellent salesmen.

Between 2007 and today there has still not been one single venture begun in North America to produce rare earth alloys or rare earth permanent magnets from them – not one! Therefore the best that any North American junior can hope for is to sell its mixed concentrate either to the between 5 and 10% of global rare earth refining capacity that exists outside of China. Of course that capacity in France, India, Viet Nam, and Japan is already mostly dedicated in-house or is only buying material when it needs make-up. This is not a seller's market, except for those who produce clean low or non-cerium containing MCRE rich concentrates. And even then the best market remains the domestic Chinese one.

There is some light at the end of this tunnel. A very few juniors are attempting to build in-house capacity to separate the rare earths from clean concentrates, and as Chinese costs move sharply upward along with Chinese demand for consumer goods there is an opportunity for a domestic North American total rare earth supply chain of the right size.

I would advise those still interested in the strategic rare earths to watch the actions of those who know what they're doing. China's Shenghe Resources, a vertically integrated total supply chain rare earth company that mines rare earths in China and manufactures rare earth permanent magnets has issued an off-take "contract," not a meaningless MOU to Tantalus AG for 30 percent of its output from its Madagascar rare earth deposit. In other words Shenghe, which unlike Molycorp, is a profitable vertically integrated rare earth product producer has decided that it is now probable that Tantalus will go into production in the near term. What does

Tantalus have? The answer is a low cost of going into production and an excellent business plan. Note also that one of the world's premier commodity trading houses, Thyssen-Krupp Metallurgical has also issued off-takes to Tantalus and to Burundi's Rainbow Minerals for MCREs. So rather than a New York brokerage or a university professor advising you on what stock to buy you can simply follow the lead of a profitable and successful rare earth company in China, Shenghe, or of a successful and profitable global commodity trading house in Germany, Thyssen-Krupp Metallurgical.

Forget the *Wall Street Journal* on rare earths. Watch the actions of real rare earth producers and traders. Oh, and by the way watch carefully both the lithium and graphite junior/senior markets as they either enter into strategic alliances with vertically integrated producers; or become one themselves; or as successful global traders select them for survival and profitable production by issuing off-takes. Did I mention uranium off-takes? Oh well you already knew about that as a barometer for survival and profitability, didn't you?

Tantalus reaches another milestone with another rare earth offtake agreement

✘ Tantalus, AG, a German rare earth junior miner with a mostly ionic adsorption clay deposit on the Indian Ocean nation of Madagascar that last month announced an off-take agreement with the Chinese, Shanghai exchange listed, vertically integrated rare earth magnet producer, Shenghe Industries, has announced today that it has now executed a

second off-take agreement. This time with Thyssen-Krupp Metallurgical Products, the long established global metals and alloys trading unit of German steel giant, Thyssen-Krupp.

The two off-takes now in force are each for 30% of Tantalus' output for an initial period of three years at full production renewable for additional terms of 7 years by mutual consent. Perhaps the most important aspect of these two agreements is that each off-take receiver in order to get the 7 year extension has agreed to finance the development of the deposit into a producing mine in an amount proportional to their off-take percentage. This, of course, indicates a high degree of confidence, by large and experienced global players in the rare earths trade, in the probability that the company will be able to put the Madagascar deposit into production beginning by late 2016 and ramp up the output to the full target amount of 10,000 tpa by 36 months after start-up.

Tantalus capex for the project as well as its opex are among the lowest proposed so far, and for their output size are the lowest I have ever seen for a non-Chinese project while their predicted profit margins are impressive. Their target date to begin production is also the nearest in time of any project I know of.

Perhaps the most significant aspect of the Thyssen-Krupp off-take is the fact that they have been granted exclusivity for Tantalus products are to be exclusively sold into the German domestic market. T-K M is a member of the well known German Rohstoff Alliance and my guess is that it will be offering its allocation to other Alliance members.

Those of you who follow the announcement circus of the rare earth juniors will recognize that the German Rohstoff Alliance is a group that almost every rare earth junior has approached and been rebuffed by. German manufacturers maintain the manufacturing world's tightest specifications for quality, on-time delivery, service and price among the world's

manufacturing industries.

Investors should note that Tantalus is a public (German) company, and that its shares traded yesterday on the Dusseldorf exchange at a price of 16 euros, a figure that no other rare earth junior can match.

Tantalus has been invisible to North American investors, because it doesn't as of yet market its shares in North America, and its announcements are few and far between although they are always significant.

The Tantalus project on Madagascar has been in development for more than five years. I was on its supervisory board of directors from 2011-2013. I resigned from the supervisory board as its vice-Chairman in August, 2013. Its current chairman, Mr Ulrich Krauskopf was my colleague then and is my friend now. The board and highly competent management team have guided the company's development to a venture that is the right size, and their combined years and extensive contacts in the International and German metallurgical industry assured that Tantalus was designed to produce what the market(s) want and in quantities and qualities dictated by the needs of those markets.

All but a very few North American rare earth juniors have overspent and thereby wasted their investors' capital trying to emulate the major miners. Tantalus, has instead, worked with its potential customers from the first day so as to become a valued and reliable supplier of the right size. This cannot be emphasized enough it is the size and cost of the output of a rare earth venture that determines success or failure not the grade of its deposit.

The cost of separating the rare earths depends in great part on what extractive and pre-separation separations it takes to prepare a clean PLS for ultimate mixed rare earths separation into individual elements

The Tantalus deposit is one of the closest in type to China's ionic adsorption clays. This makes the extraction of the mixed rare earths far easier and far less costly than hard rock mining.

Thirty percent of Tantalus output is already sold and dedicated to the Chinese domestic market and thirty more percent is now sold and dedicated to the German domestic market. I doubt that the remaining forty percent will be hard to pre-sell, and I suspect that some North American and Japanese global100 corporations are sharpening their pencils and doing the math already.

Marketing of the rare earths is not of the "we will mine it and they will buy it" type as so many Canadians and Americans thought. It was the very first thing that Mr Krauskopf addressed when he joined the company's board.

Knowledge, experience, skill and contacts have now brought Tantalus to the brink of success.