Tesla's Supply Chain – Triumph of Hope over Experience?

They say that second marriages are the triumph of hope over experience but we can't help thinking the same of Tesla's "belief" that when miners said to it that they would be able to provide enough Lithium, Cobalt and Graphite for its Gigafactory it actually believed them. We can't escape the feeling that the texting acronym ROFL (Rolling On the Floor Laughing) was made for exactly this situation.

However for a long time Tesla have painted themselves as being "the smartest guy in the room" and yet are we really supposed to swallow the line that Tesla actually believed that a whole swathe of projects in metals critical to their project would come to fruition when educated and informed people in the mining space knew that they would not? It would appear to be more of a case of didn't want to know rather than didn't know…

In this piece we shall follow on from the firestorm that John Peterson created in his piece last week with a specific look at how credible the chance of any of the many projects in the three metals of import actually becoming productive was over the last five years.

Lithium

We have been covering this metal since late last decade. Prior to that point (like Rare Earths) there had been so few players that they were well below any analyst's radar. Moreover, with the pre-2008 focus on staples like precious metals and base metals, the specialty metals scarcely got a look-in. Our first exposure was the Rincon asset then embedded in an ASX-listed entity Admiralty Resources. Lingering effects of the 2008 crisis eventually forced Admiralty to divest this is to Cayman

Island based resource fund, Sentient, who have held it ever since. At the time we thought this was the vanguard of the Lithium push that would break the Cartel and fill the demand gap in the middle of this decade. Instead the asset appears to be totally becalmed and it most definitely has not filled any gap, real or imagined.

Then came the Lithium boom. The great star performer was Talison Lithium which was cobbled together out of the old Greenbushes asset (ergo, a past-producer) and the assets of Salares Lithium in Chile. The high-point of the first flush was this company being bought for over $600mn by a Chinese group in league with Rockwood (one of the Cartel).

What was an initial field of around twenty lithium wannabes has shrunk by half over the last five years and is only now showing an uptick in interested new entrants. But as they say in the classics, “too little too late” to save Tesla’s bacon. It’s probably worth repeating here our Lithium Lifecycle chart, as a picture tells a thousand words:

An interesting microcosm of Tesla’s dilemma is that it signed a much vaunted deal with Bacanora Minerals. That fired up the stock price of BCN but did not bring in a single dime from Tesla in terms of investment. The attitude seemed to be “announce the deal, lift the price, go finance yourself”. Easier said than done as we all know when the capex is north of $100mn. Understandably BCN has started to lose some of its rosy glow and the task of raising all the funds has now fallen upon the company. However even with the best will in the world (and easy money) this project would be years away from production.

If Tesla had really believed in this project or any other one, it should have taken a strategic stake and made funds available to move things along. Frankly, it did not.

Cobalt

This metal has until recently been one of the least talked about in the battery supply chain probably because it has an LME quoted price and thus this has given many the illusion that it is a “major trade metal”. Wrong! To put this in perspective the LME warehouses only have 614 tonnes of this metal in stock. Not exactly a base on which to build a major battery industry and still get a good night’s sleep.

But doesn’t it come as a by-product of major mines in other base metals? Oh, you mean the copper mines of the DRC with their on-again, off-again restrictions on exports and conflict mineral overtones? Or do you mean the big nickel mines, such as Ambartovy and Moa Bay that are scarcely fountains of cashflow for their owners (e.g. Sherritt et al.)? It is most correct to say that any manufacturer of size relying upon major base metals mines to continue providing them with cheap by-product Cobalt had better dust off their candles and light them to the Gods of Mining. The quantities produced from these mines is essentially driven by demand for the major metals and no major is going to ramp up copper or nickel production at a loss, or at breakeven, just to keep Tesla supplied with the Cobalt it needs.

As can be seen below has been on a long slide and has only just started to tick up. Frankly its price could double, but if the prices of nickel and copper have not moved commensurately, then it is unlikely majors will ramp up production.

This brings us then to the subject of primary Cobalt mines. These are rare unicorns indeed. Much air has been expended on this subject over the last fifteen years but little has been achieved in terms of bringing mines to production. The USGS produced a report on the Cobalt production outlook in 2013 and

it included a frighteningly long table with the names of Cobalt projects that had been stopped in their tracks, mothballed or permanently decommissioned.

Below is our Lifecycle graph for the listed Cobalt developers, that we know of. This is the scantiest population of any of our “lifecycle graphs”.

Formation Metals (FCO.to) is the obvious candidate for Tesla to “take out” if Tesla starts getting serious but even then, the project would probably not fully supply Tesla’s needs. Then it might need to move on to the NiCoCo project of Fortune Minerals (FT.to) to be fully self-sufficient. The others are all too early stage or too small to be realistic help in ameliorating Tesla’s looming Cobalt crunch.

Graphite

For a mineral that is literally as common as dirt, the surprising thing is how little has been achieved by the “wannabes” which makes us think that they just “wannabe bought”. The most suspicious thing is that for a mineral that has minimal processing requirements and very simple mining requirements (quarrying, pretty much) the capexes being touted are truly eye-popping. This brings us to our usual suspicion (very prevalent in the glory days of REEs) that the companies pump up the capexes because if the capexes were smaller than their cash-pile or financing ability then cheeky investors (and offtakers) might say “well, why aren’t you building it?”. This impolite stating of the obvious is a sure conversation killer.

In any case this is all history now as most graphite companies that did not speed towards development now find themselves short of cash and staring the Grim Reaper in the face. Names

like Elcora and Flinders are either in production or on the cusp, while some of those that most vigorously played the “Tesla card” in their promotional efforts are down to their last shilling with little hope of reviving their credibility.

Tesla should move on one of the more stricken players, take it over and then announce that it has satisfied all its foreseeable needs. The mind boggles as to what that will do to the valuations of the other “wannabe Tesla suppliers”.

Conclusion

There is an old adage of “put your money where your mouth is” and frankly Tesla has shown zero sign of expediting any of the projects that it has waved its magic wand over. That nothing has happened to move these projects forward thus makes us feel that Tesla’s magic wand is limp indeed.

If this failure to abide by the commandment “Secure Thy Supply Chain” has gone unheeded then whatever the market dishes up to the company once it starts to explain away sourcing difficulties will be well-deserved. Did Tesla seriously think it was going to get a free ride from beaten down miners who can scarcely afford to pay their light-bills let alone developing mines with capexes north of $100mn. With Tesla still having a market cap of over $26bn, it could acquire for stock the most likely player in each of the Lithium, Graphite and Cobalt spaces for less than 1% dilution. Think about it…