

Focus Graphite proves they can deliver Tesla-grade graphite

Tesla Motors, the electric car manufacturer Tesla is planning a massive expansion of its production and wants to build its very own USD \$5 billion dollars battery factory. Tesla expects such demand as to not be able to rely on current availability. Tesla is scoping four possible States to build the so-called 'battery gigafactory': Nevada, Arizona, New Mexico and Texas. The factory should be productive by 2017 in time to launch the new Tesla economy model and will be using exclusively North-American resources. This is not because Tesla is patriotic; it may well be, but the Company is managed to succeed in business not nationalism. Rather, Tesla wants to stress the environmental process and therefore reduce the pollution deriving from distance and transportation that will be required if the materials are sourced beyond the North American continent. Sourcing the right kind of graphite will be one of Tesla's main sourcing challenges. There are no current producers of battery grade flake graphite in North America; however, Focus Graphite is an example of a graphite company moving from exploration to production in North America while offering a superior quality mineral. Focus Graphite ('Focus', TSXV: FMS | OTCQX: FCSMF | FRANKFURT: FKC) meets all the requirements to become a supplier to Tesla's planned battery Gigafactory. In a recent test, Focus announced that it has managed to produce very high-performing coated Lac-Knife spherical graphite (SPG) for lithium ion batteries. Lac Knife SPG coin battery tests evaluate three proprietary formulations



that responded very well to CR2016 coin cell performance testing. The test provides a 'model' of for the graphite electrodes used in Li-ion batteries. The cells are made using the graphite and a simulation is designed to test the impact of uniaxial pressure on the galvanostatic charge/discharge limitation and path dependence of the electrode in the coin cell, predicting its behavior in commercial cells/batteries.

Focus said its passed the tests, exceeding the benchmark performance targets of current commercial grades by significant percentages. Indeed, the tests have confirmed Focus' potential to deliver the most suitable lithium ion battery anode grade graphite matching Tesla's specifications. The SPG grade graphite developed by Focus has also overcome the frequent problem of how to increase cycling capacity. Graphite, like other carbon based materials in Li Ion batteries, leaves a Solid Electrolyte Interface ("SEI") layer "which produces an irreversible capacity loss (ICL) which generally ranges between 5 and 10% for benchmark SPG grades currently available in the market place". ICL translates to capacity loss and waste, reducing efficiency and taking away from Tesla's pursuit of efficiency to meet its ambitious environmental goals. Focus' battery grade graphite showed a capacity loss of 365.08 Amperes/hour (AH) per kilo or an extremely low irreversible capacity loss of 1.01%

The Li-ion batteries used by Tesla cars are one of the components that make electric cars so much more expensive than internal combustion ones. In order to make electric cars more affordable for the masses, Tesla's planned facility, which will employ over 6,000 people, will produce more lithium -ion batteries than all the battery factories in the world put together. Tesla, meanwhile, plans to go from selling 22,500 cars to 500,000 cars in the next few years. Tesla's current flagship, the Model-S, sells for over USD 90,000. Graphite is the essential material for battery production and batteries are the products slated for the highest demand growth in the

area of “green” technologies. More significantly, where Focus is concerned, Li-ion batteries use 10 times more graphite than lithium. The market for electric cars is growing annually by 20% and Tesla Model S needs about 96kg of graphite for its batteries boosting demand at an almost exponential rate.

In 2013, Focus Graphite issued a very favorable economic assessment, underpinning the robust and economic viability of its Lac Knife project with a projected mine construction cost of CAD\$ 126 million – 20 % of which represents a buffer to absorb possible surprises during construction. Based on a conservative sales price of USD \$ 1,886/ton and an annual production of 44,200 tons, the annual operating profit could be around 52 million CAD. The cost of construction could be paid back within 2.8 years after taxes. Focus plans to publish a final feasibility study to confirm the figures from the PEA in the next few months. Production in Quebec is expected to start in the Q3 2016; the processing plant should be ready by the end of 2015.