

Ecclestone selects Alabama Graphite as one-of-five most likely to prosper

In working up an institutional research piece on **Alabama Graphite Corp.** (TSXV: ALP | OTCQB: ABGPF) over the last month a few things have struck me and are worth highlighting. These are elements of the company's story which are unique and separate it out from the pack in the graphite "race".

Past-Production is Princely

We keep repeating the mantra of the moment that "production is king". By implication past-production is princely. The recent addition of the former Bama mine, which produced until the 1940s, was a major coup for Alabama Graphite. Already favorable results are flowing in from initial work at the old pits. However, closer examination of the details of the Coosa project shows that this also hosts the old Fixico mine. This gives the company's exploration team, in some ways, a pre-drawn roadmap to where the best chances of proving up mineable deposits may be. We would also note that as past-production ceased in most cases because of a flood of imported graphite into the US economy, it is NOT the case that mines closed due to lack of material.

The Climatic Setting

Not much thought has gone into this point but very few of the globe's graphite deposits are in climatologically benign locations. Thus far most of what is being served up by explorers is in meteorologically-challenged locations, to put it politely. This is either areas with very severe winters (not naming names you know where we mean) or tropical or semi-tropical locales. In fact the only deposits that readily come to mind as being in temperate climes, with easy year-round

working conditions, are the old “pencil-lead” deposits of northern England and those areas being developed by Alabama Graphite...

Infrastructure

With ALP’s projects being near surface and oxidized (with good friability) they also tick the box for lower end capex. This neck of the Alabama woods (quite literally) has a network of heavy duty logging roads and electrical and water provision. Moreover with what looks like being a string of projects in the same general vicinity (and most importantly with trucking distance of each other) the potential exists for the company to start up in a modular mode adding capacity as further resources are brought into play. All this minimizes potential capex and complications.

The US’s Strategic Blindspot

The German, Japanese and South Korean end-users of many critical commodities have taken fright in recent years at the increasing dominance of the Chinese in key minerals. Not only does this threaten a potential cut-off of supply in moments of international threat but also gives the Chinese a key advantage to “eat the lunch” of Western manufacturers in high-value goods like machine tools, for example.

The US has blithely carried on with a just-in-time bottom-line oriented culture that has eschewed developing internal supply lines. Over and over again this has shown to be the “feet of clay” of the US economy. After the recent Russian supply scare it’s back to business as usual. However the newest trend of on-shoring means that it makes sense for US high-value added products to have inputs, like graphite, to hand rather than in locations with potentially disruptible supply lines in an increasingly tense world.

The graphite deposits of Alabama were exploited in World War One, then World War Two when, on both occasions, the US

economy was cut off from imported supplies. But after both events the mining efforts were allowed to languish back into obscurity (and supply vulnerability again). Isn't this what happened in Tin, Rare Earths, Antimony and dare we mention it, Uranium?

The one advantage of this stop/start approach to resource security is that, at least in graphite, the resources were never exhausted and thus have been sitting there awaiting the fair wind of market forces to breathe life back into the production of these minerals.

Alabama – Way to Go

With many past prolific mining jurisdictions giving lip-service to being mining friendly and then putting enormous roadblocks in the way (British Columbia and New Brunswick to name two offenders) it is interesting to note that Alabama Graphite finds itself working in its eponymous state that seemingly cannot wait to see some serious large scale mining restart in its territory. The state has in the past hosted mines in graphite, iron ore, gold, tin, tantalum and marble.

As for the State's political climate, political winds can change (however we do not view this as likely in the foreseeable future in Alabama). Though we would note that, economically, it is hard to discriminate between Republicans or Democrats in the South. Alabama has set job growth and economic development as a priority for the next twenty years. Every State agency that touches job creation has bought into this mission.

Alabama is a delegated State for implementation of USEPA regulations and Alabama is a delegated state for implementation of USEPA regulations and environmental laws, and the state has managed to work almost seamlessly in its coincidental involvement with Federal agencies such as the USACE. The permitting agency sets a target of six months from

receipt of completed application to grant of permit. Alabama Graphite has positioned itself well by involving, through information meetings, the environmental and conservation advocates as well as other interest groups and stakeholders on the front end of the project. Alabama Graphite has also involved the local government and community in its efforts to gather support to ensure that permitting moves smoothly.

Conclusion

The Graphite space does not have the same “Crowd scene from the Ten Commandments” feel that the Rare Earth space had and yet not all the graphite players are going to make it either. Those with the best chances of not only surviving, but also prospering, are those that “tick” the most boxes and Alabama Graphite in most respects satisfies the criteria for doable projects, in a politically and climatologically benign location with the best access to the US end-users. As far as management is concerned, it has a heavyweight team on the board that has done it before at Timcal’s Quebec mine.

As if that was not enough, there is also the factor of past proven mineability of these deposits and the potential to satisfy the US’s strategic need for a graphite supply not subject to foreign interruption. Our analysis leads us to believe that Alabama Graphite ranks in the top five graphite stocks most likely to prosper over the coming years.

**Alabama Graphite has the
ideal conditions to become**

the USA's main graphite producer

The USA (and the EU for that matter) has placed graphite on  the list of strategically important materials. However, as is well known, 70-80 % of mineral graphite comes from China. Graphite will become increasingly used in batteries for electric vehicles and smartphones alike as well as in steel manufacturing. Demand has increased significantly in recent years. The West – especially as relations have cooled lately – is anxious to break its reliance on Chinese suppliers. Americans have recently been re-exploring the benefits of self reliance and resource independence. Insofar as this translates to the world of graphite, Alabama Graphite Corp ('Alabama Graphite', TSXV: ALP | OTCQB: ABGPF) could become the first graphite mine to start operating in the United States with the potential to address growing Red, White and Blue demand.

Alabama Graphite's potential is supported by the fact that the only area in the United States where graphite has been mined profitably is, in fact, the so-called Alabama graphite belt. Indeed, many graphite mines were in operation for decades in Alabama before demand slowed and production stopped. Perhaps this explains why 'Alabama Graphite' has chosen to name itself after what was until not long ago the main graphite producing area in the USA. The State of Alabama can offer the right infrastructure – given its graphite past – to ease commissioning while the year round warm weather eases operations. The Project covers an area of $\approx 40,000$ acres and is located in a an area well known for its crystalline flake graphite.

Alabama Graphite's Coosa Graphite Project (Coosa) is close to all necessary power sources, it is only two kilometers away from the main highway, has unlimited water supply, it is three hours away from the nearest shipping port and the lowest

winter temperatures that can be expected are in the 1 – 13 degrees Celsius range. In addition, the State of Alabama is currently making great efforts to attract investment because it is focused on creating jobs and reduce the unemployment burden on State coffers. The State has offered tax breaks and support for all industrial projects. In other words, Alabama Graphite can expect an easy approval and permit process. In other words, the Alabama State regulators have conspired with its geology and mining past to provide essentially ideal mining conditions for Alabama Graphite.

The Coosa project itself would be able to support US domestic demand as well as export capacity because of both the size and quality of the resource. The abundant historical graphite mining record in Alabama shows that the average content of the Alabama graphite belt is 4-6 % with peaks of 8% and 12%, comparable to the best projects in Quebec or Madagascar (or China for that matter) which are also in the 7-12% range. The drill targets identified in summer 2013 suggested that some could be as thick as 515 meters, a rather high and unique value in the sector.

Most of the flakes identified so far were of the medium variety (Large Flakes: +50 mesh, Medium flakes: +80 mesh, Small Flakes: +100 mesh).

On May 14, Alabama Graphite announced the appointment of Daniel P. Goffaux to its board. Mr. Goffaux is an experienced mining industry manager who served as President of Stratmin Graphite Inc. (now Timcal Canada Inc.) primarily responsible for the development of the Stratmin Graphite mine, the first (and so far the only) graphite producer in North America. Mr. Goffaux was entrusted with the preparation of the Feasibility Report, oversaw the construction of the mill and ran the operation, which received an ISO 2003 certification within 3 years.

On May 13, Alabama Graphite reported that it has delineated five new target areas within 2.5 kilometers of all previously

defined resources zones at the Coosa project. Major Drilling at the five target areas should start in the next few weeks in order to gain the first samples to determine content and the size distribution of the graphite. If anything, Alabama Graphite has the enviable 'problem' of having "too many quality target areas" according to Company officials; nevertheless, the Company intends to step up exploration in order to ensure that it become "the first low-cost producer and just- in-time supplier of high purity flake graphite in the United States of America".

From steel to graphene, Mason is one of the 'best rounded' companies in the graphite sector



Mason Graphite Inc. ("Mason", TSX.V: LLG | OTCQX: MGPHF) is proving to be one of the most attractive companies in the entire graphite sector. Mason delivered a strong Preliminary Economic Assessment (PEA) in April 2013. Its highlights included a 22-year mine life with an over 96% rate of graphite recovery and the potential to deliver grades well in excess of 96%. Moreover, in September 2013, Mason showed that it can achieve extremely high purity levels – up to 99.9% graphitic carbon content – in response to new industrial applications, using traditional processes, requiring modest investment.

Mason's resource promises to be especially rich in large and medium flake graphite, the most desirable variety of graphite

for applications in clean energy, lighter and more powerful batteries, super capacitors for wind turbines and pebble-bed nuclear reactors. Meanwhile, given its high grades potential, Mason will be ready to address those applications as they become commercially relevant. Large flake graphite, which is cheaper to process than the amorphous variety, has seen sharply rising demand, accounting for a fivefold price increase from USD\$ 500/ton to USD\$ 2,500/ton since 2005 with the steepest price increases occurring over the past two years.

Apart from the quality of the Mason project itself, Benoit Gascon's more than 20 years experience in the graphite space is also reassuring. Mr. Gascon served as CEO of Stratmin Graphite, one of the few graphite producers in North America, having a deposit in the same highly prolific Lac-des-Iles zone. Gascon has decades of experience in the graphite industry and he understand what it takes to address the very specific customer needs for this commodity as well as how to confront competition from China. Mason Graphite is very close to Timcal's Lac-des-Iles deposit – which has just a few years of ore supply remaining. Given, Gascon's connection to Timcal and Mason's geographic proximity, the possibility of some kind of 'union' between these two cannot be ruled out in the medium term.

While Mason is certainly targeting the emerging high technology market, as battery technology advancements trickle down from the lab to retail, Mason is different from other emerging graphite companies, in that it has plans to generate short term revenue as well by addressing the more 'traditional' graphite market as well – or first – such as the steel industry, which needs refractory materials for furnaces and carbon enhancers in steel alloys or lubricants. Mason believes these sources will help it grow in the near future while high-tech batteries and other applications will become more commercially relevant in a few years' time, representing

a future and additional source of revenue. Meanwhile, Mason is also squarely projected to the future and none demonstrates this better than its recent investment in Group NanoXplore Inc ('NanoXplore'). Mason closed the first tranche of its investment in NanoXplore on January 13th 2014, under an agreement whereby Mason Graphite can acquire up to 40% of NanoXplore's issued and outstanding shares for \$700,000 in two tranches. The second tranche should be completed by or before July 31, 2014.

The deal will give Mason Graphite an edge into the emerging graphene market as a supplier of graphite and a distributor of graphene. This is because, NanoXplore has developed a proprietary low cost electrochemical method to convert natural flake graphite into graphene, which uses less energy than the more widely used vapor deposition and liquid exfoliation methods. NanoXplore's main advantage, given its lower cost, is scalability, which gives it the potential to make graphene into a more widely available material, bringing it from the lab to the market.

The exploration and development of graphene is underway in many countries at full speed. China has taken the lead in the race for potential graphene applications with Ningbo Morsh Technology, which built the world's largest to-date graphene production plant last January. As noted by InvestorIntel's Dr. Luc Duchesne, in 2013, there has been a sharp increase in patent applications for various graphene applications since 2007. This trend has accelerated even further in 2013 and, unfortunately for the 'West', China is currently the world leader in such patents. Ningbo Morsh is able to make 15-inch single-layer graphene films. The company has already signed a deal with 'Guangdong Zhengyang' to make ten million 'Thin Film Composites' (TCF) used for the production of super-thin, touch-sensitive screens for mobile devices. The investments are expected to amount to the equivalent of around 16 million dollars.

The Chinese have made graphene research one of their technological priorities and they are quickly moving from the pure research and development phase towards implementation in various application-ready products. One of the most eagerly awaited developments will be the production of graphene coatings for Li-ion battery cathodes, which translate to a much longer battery life (by slowing down the discharge rate) and to improved cycle stability. China is also planning a graphene industrial park to advance the research and development of this material and the prompt development of new practical applications.

In this context, Mason's deal with NanoXplore is far more valuable than its financial cost. It is one of the first – and few – examples of direct collaboration between a high grade graphite supplier such as Mason and a graphene production company. NanoXplore and Mason, therefore, will be competing alongside the graphene R&D facilities being set up around the world in the race to achieve the best method to deliver scalable graphene. All the while, Mason has 'hedged' its future by addressing all graphite applications, making it one of the best-rounded companies in the sector.