

# Alabama Graphite and the geological anomalies that promise success



Alabama Graphite Corp. ('AGC', TSXV: ALP | OTCQX: ABGPF), which is developing the Coosa and Bama graphite projects in Alabama, has been very active during this fall in advancing the programs. Alabama Graphite has 42,000 acres of property in central Alabama, located along a historic graphite belt. Alabama

Graphite will be exploring five new targets over the next few months based on identified 'anomalies' that hold significant promise for large flake graphite. At Coosa, AGC, has been evaluating new exploration targets identified during flight and ground survey activity. So far, the Company has engaged in trenching some 10,000 out of a total 18,000 feet. Samples collected from the trenches will be analysed by ActLabs in Ancaster (Ontario). The results will be published as they become available but the trenching program should be concluded by the end of November. At Bama, meanwhile, AGC has entered the final stages of negotiation to secure a land use agreement for the Bama Mine project in order to start new exploration around the historic mine Bama.

An agreement should be forthcoming during the next two weeks and an initial 11,500 ft. trenching program will begin thereafter, including 10 drill holes. Before the end of 2014, AGC will have completed the trenching and drilling programs at Coosa and Bama while scoping level evaluations of samples from both projects are already underway at the SGS Lab in Lakefield (Ontario). One of the most important results so far is that

trenching will be a far more cost-effective solution than drilling in the quest for near-surface oxidized mineralization. AGG, moreover, has already started to gain a better understanding of the properties of the natural flake graphite from Coosa and Bama in order to adopt the best suited metallurgical processes to determine ideal market applications. Dr. Nitin Chopra from the University of Alabama's Metallurgical and Materials Engineering Department will be working with AGC to this effect.

Alabama Graphite's CEO, Ron Roda, has assembled an excellent group of directors to the Company, perhaps the most experienced technical team in the graphite space. Some, like Jean Depatie (Chairman), had until not long ago been the President of Stratmin, the only mineral graphite producer left in the North America. One of AGC's advantages is that it presents a very high percentage of naturally occurring large flake graphite. Large flake graphite has many applications from 'basic' to advanced technology. Most flake graphite, now, is used to make 'grafoil', which is the material used to make brake linings or automotive engine gaskets; such material can sell for anywhere from 1,800 to 2,200-2,300 dollars per ton; whereas the fine graphite is 450 dollars.

The Coosa and Bama properties have shown two important characteristics that make them ideal: the flakes are coarse and large and most of the graphite is at surface level with many interesting anomalies that promise to yield even better grades than the already high grade surface material, according to AGC management. Alabama Graphite has all the ingredients necessary to become the first graphite mine to resume operations in the United States with the potential to address demand for traditional applications as well as new battery technology related products. 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.

---

## **Ecclestone on Alabama Graphite: Can't Beat a Past-Producer**

As I never tire of stating, a past-producing mine gives a miner a head-start in the race to production and therefore last month's bolt-on of the Bama Mine to the portfolio of Alabama Graphite Corp. (TSXV: ALP | OTCQX: ABGPF) was a "Great Leap Forward" in moving the company closer to production. The results from the first testing of the site came out today ([click here](#)) and go to show that the transaction is loaded with promise. Indeed Bama may even race ahead of the initial Coosa prospect in getting ALP into the graphite production stakes.

### **The Samples Roll In**

The stock should get a fillip from its first set of metallurgical results (from SGS Laboratory in Lakefield, Ontario) on sample material originating from the open-pit Bama Mine. The five kilogram composite sample was taken from the upper 50 feet of the existing Bama Mine pit wall.

Using only simple floatation (without chemical or thermal treatment) the Bama composite sample produced a graphite concentrate that contained an aggregate of 54.7% large flake (+80 mesh), of which 17.8% was in the jumbo flake (+48 mesh) category. For all size ranges coarser than +150 mesh the purity exceeded 96.3% with the jumbo flake fraction having a purity of 98.5% in Scoping Level Evaluations. Another positive to note is the sample's low sulphur content at 0.02%.

### **Some background**

In the last month ALP picked up the Bama flake graphite mine in Chilton county, Alabama which is one of the best of the past-producing mines in the southern graphite belt. The mineral lease comprises 200 acres and includes both the surface as well as the mineral rights over the historic mine. The company has also signed a mineral exploration lease on several parcels comprising 1,160 acres adjacent to the Bama mine. With the addition of these properties in Chilton county, the company now has a significant foothold within the Alabama graphite belt.

The Bama mine was the southernmost graphite mine in Alabama and the only one in Chilton county. It was one of the larger graphite mines and included an electrostatic separator in the mill building. The photo below shows the processing plant in its heyday of the 1940s. The mine operated from 1925 to 1930 when the mill burned. The main pit is 625 feet (190m) long and 150 feet (45.7m) wide and excavated to a depth of 40 to 80 feet (12.2 to 24.4m). Two smaller pits about 200 feet (61m) long were mined along strike between the main pit and the mill.



As with the other graphite mines in Alabama, the Bama mine shut down prior to the end of the Second World War, but not before a substantial volume of ore was extracted from the existing pit.

In the late 1940s the U.S. Bureau of Mines sampled all the known occurrences of graphite in Alabama and the published results showed the Bama mine to be unique. A sample taken from the pit wall not only registered the highest percentage of graphite (7.85% Cg), but also contained 17% jumbo flake.

With regard to the potential to host additional resources the company's NI 43-101 noted former authors on the subject saying: "To the southeast a large tonnage of weathered ore may be present along strike..." (Cameron & Weiss, 1960). The Bama Mine had the highest overall grades of the region and a much higher content of 50-100 mesh flakes than average.

### **Work Program**

There are similarities between the Bama Mine and ALP's pre-existing Coosa Project. The Bama Mine also contains a thick

oxidized zone where weathering has both removed sulfide minerals and significantly reduced the hardness of the graphitic schist host. Therefore, when it comes to mining, much less work and energy will be required to liberate minerals from the soft, weathered host rock. As a corollary, the ease of liberating the graphite from the weathered rock in Alabama could lead to potential savings in both capex and opex.

Thus far, ALP has conducted airborne time domain electromagnetic, magnetic and radiometric surveys over the area of interest in Chilton County. Preliminary channel samples, which are what has just been announced, were collected for both graphitic carbon analyses and metallurgical testing. An exploration program consisting of additional surface sampling, ground-based GEM2 geophysical surveys and sonic drilling is planned to start immediately.

With two projects in relatively close proximity, this will allow ALP to use the same exploration staff and sample-prep facilities.

## **Conclusion**

We see history repeated over and over again. 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 I say 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.

In Bama, ALP has picked up the cream of the graphite crop from

the golden days of Alabama's dominance in the US graphite industry. Now this serendipitous purchase has been justified by some excellent sample results. It's not that it topples the "first-born" Coosa prospect from relevance but means that Alabama Graphite is now like a stable-owner with two thoroughbred's in the main race.

Now that ALP's runners have doubled in number it will be a race well worth watching because the prize will be the reactivation of graphite mining in the US after an embarrassingly long period of dependence upon fickle foreign supply sources.