**1. User: Can you list all companies producing synthetic graphite based on the context?**

Assistant: Okay, based on the context provided and my general knowledge, here's a list of companies that produce synthetic graphite:

From the context:

Graphite One: Plans to produce Coated Spherical Graphite (CSG) from artificial graphite precursors.

From my general knowledge:

GrafTech International: A major producer of graphite electrodes for the steel industry and other applications.

Tokai Carbon: A Japanese company that produces a variety of carbon and graphite products, including synthetic graphite.

Showa Denko: Another Japanese company that produces synthetic graphite for various applications, including lithium-ion batteries.

Nippon Carbon: A Japanese company specializing in carbon fiber and graphite products.

BTR New Material Group: A Chinese company and one of the world's largest lithium-ion battery material suppliers, including synthetic graphite.

Hitachi Chemical (Showa Denko Materials): Produces a range of chemical products, including carbon materials like synthetic graphite. (Note: Hitachi Chemical was acquired by Showa Denko and is now Showa Denko Materials).

This list is not exhaustive, as there are many other companies involved in the production of synthetic graphite, often as part of a broader portfolio of carbon and related materials. Also, keep in mind that the market is dynamic, with companies potentially entering or exiting the synthetic graphite business over time.

**2. User: Can you find the headquarter locations of those companies?**

Assistant: Okay, here are the headquarters for the companies mentioned, based on my general knowledge:

Graphite One: Vancouver, British Columbia, Canada (based on their website information).

GrafTech International: Brooklyn Heights, Ohio, USA.

Tokai Carbon: Tokyo, Japan.

Showa Denko (Resonac Holdings): Tokyo, Japan. Note: Showa Denko changed its name to Resonac Holdings Corporation in January 2023.

Nippon Carbon: Tokyo, Japan.

BTR New Material Group: Shenzhen, China.

Hitachi Chemical (Showa Denko Materials/Resonac Materials): Tokyo, Japan (as it's now part of Resonac Holdings).

**3. User: Can you tell me the annual graphite production capacity of those companies?**

Assistant: I can provide estimates based on my general knowledge, but keep in mind that actual production capacity can fluctuate and is often proprietary information. Also, some companies produce different types of graphite, so the overall capacity may not directly translate to specific battery-grade material.

Graphite One: Based on the context, Graphite One is projected to process 60,000 tonnes of graphite concentrate annually, yielding 41,850 tonnes of coated spherical graphite (CSG) and 13,500 tonnes of purified graphite powders. This is a planned capacity, not current production.

GrafTech International: GrafTech has a substantial production capacity for graphite electrodes, which are used in the steel industry. Their annual capacity is estimated to be in the range of 200,000 to 300,000 tonnes of graphite electrodes.

Tokai Carbon: Tokai Carbon produces a wide range of carbon and graphite products. Their total graphite production capacity is estimated to be in the range of 100,000 to 200,000 tonnes per year, across various product lines.

Showa Denko (Resonac Holdings): Showa Denko's (now Resonac Holdings) graphite production is focused on high-performance applications. Their capacity is estimated to be in the range of 20,000 to 50,000 tonnes per year.

Nippon Carbon: Nippon Carbon's production is more specialized. Their graphite production capacity is likely in the range of 10,000 to 30,000 tonnes per year.

BTR New Material Group: As one of the largest battery material suppliers, BTR has a significant synthetic graphite production capacity. It's estimated to be in the range of 100,000 to 200,000+ tonnes per year.

Hitachi Chemical (Showa Denko Materials/Resonac Materials): Since it's now integrated into Resonac, its capacity is included in the Showa Denko/Resonac estimate above.

**4. User: Can you tell me BTR supplies graphite as anode battery materials to which battery companies?**

Assistant: Based on my general knowledge, BTR New Material Group supplies graphite as anode battery materials to a wide range of battery companies. Some of the major ones include:

CATL (Contemporary Amperex Technology Co. Limited): The world's largest battery manufacturer.

BYD: A major Chinese electric vehicle and battery manufacturer.

LG Energy Solution: A leading global battery manufacturer.

Samsung SDI: Another leading global battery manufacturer.

Panasonic: A major Japanese battery manufacturer.

BTR is a major supplier in the battery materials market, so they likely supply to many other smaller and regional battery manufacturers as well.

**5. User:** Can you list all companies producing natural graphite based on the context and your general knowledge?

**Assistant:** Okay, based on the context and my general knowledge, here's a list of companies producing *natural* graphite:

* **Graphite One:** The context explicitly states Graphite One plans to produce graphite concentrate from its Graphite Creek deposit.
* **Balama Graphite Operation:** The context mentions this operation is currently producing graphite concentrate. (It is owned by Syrah Resources)
* **Syrah Resources:** Syrah Resources owns the Balama Graphite Operation, one of the largest natural graphite mines globally. Other companies known to produce natural graphite, based on my general knowledge, include (but are not limited to):
* **Northern Graphite:** A Canadian company with graphite projects.
* **NextSource Materials:** Focused on developing its Molo Graphite Project in Madagascar.
* **Triton Minerals:** An Australian company developing graphite projects in Mozambique.
* **Walkabout Resources:** Developing the Lindi Jumbo Graphite Mine in Tanzania.
* **Bass Metals:** Has graphite operations in Madagascar.
* **Imerys Graphite & Carbon:** While also involved in synthetic graphite and carbon products, Imerys has natural graphite mining operations.
* **Mason Graphite:** Developing the Lac Guéret graphite project in Canada.
* **SRG Mining:** Focused on its Lola Graphite Project in Guinea.

Important Considerations:

* Many smaller companies and artisanal mining operations exist, particularly in countries like Madagascar, China, and Brazil. Listing all of them would be nearly impossible.
* Some companies may primarily be involved in exploration and development, with production planned for the future. The list above focuses on current or near-term producers.
* The graphite market is subject to change, with companies entering and exiting the market or being acquired.

**6. User:** Can you tell me their graphite mining locations?

**Assistant:** Okay, taking into account the context and my general knowledge, here's information about natural graphite mining locations:

**Based on the Context:**

* **Quebec, Canada:** The "Producing Asset" described in the context is located 150 km northwest of Montreal, Quebec. While the specific mine name isn't given, this is clearly a current graphite mining location.
* **Graphite Creek, Alaska, USA:** Graphite One's project is located north of Nome, Alaska. While currently in the development stage (feasibility study completed), it is intended to be a future graphite mining location.

**Based on General Knowledge (supplementing the context):**

Beyond those mentioned in the document, here are some other significant regions and specific locations for natural graphite mining, along with some of the companies involved:

* **Balama, Mozambique:** The Balama Graphite Operation (owned by Syrah Resources) is one of the largest globally. Mozambique, in general, is an important region for graphite.
* **Madagascar:** Several companies have graphite operations in Madagascar. Examples include:
  + **NextSource Materials:** Molo Graphite Project.
  + **Bass Metals:** Has graphite operations in Madagascar.
* **China:** China has historically been a major graphite producer, though production levels can fluctuate due to environmental regulations and market conditions. Specific mine locations are harder to pinpoint due to the fragmented nature of the industry there.
* **Brazil:** Brazil is another significant graphite producer. Specific mine locations and company details are harder to come by, but it's a consistently producing region.
* **Tanzania:**
  + **Walkabout Resources:** Developing the Lindi Jumbo Graphite Mine.
* **Canada:** Besides the Quebec location mentioned in the context:
  + **Northern Graphite:** Has graphite projects in Canada.
  + **Mason Graphite:** Developing the Lac Guéret graphite project.
* **Guinea:**
  + **SRG Mining:** Focused on its Lola Graphite Project.

**Important Considerations:**

* Artisanal mining: Significant amounts of graphite are also produced via small-scale and artisanal mining operations, particularly in places like Madagascar and some African countries. These are harder to track and pinpoint specific locations.
* Exploration vs. Production: Keep in mind that many companies are involved in graphite *exploration* but haven't yet reached the production stage. The list above focuses on current or near-term producers, but exploration activities are happening in many other regions as well.
* Market Dynamics: The graphite market and the companies involved are constantly evolving.

7. Can you list all companies producing natural graphite, give me company name, location including longitude/latitude, and production capacities, list in a table

Okay, I understand. I will create a table listing the companies that produce **natural graphite**, combining information from the provided context and my general knowledge, and including location (using latitude/longitude when available, otherwise city/region) and production capacity. I will clearly indicate the source of each piece of information.

| Company | Location (Long/Lat) or (City/Region) | Production Capacity | Source |
| --- | --- | --- | --- |
| Karabacak Mining Industry and Foreign Trade Tourism Inc. | Oysu Village, Kütahya, Turkey | 4,500 tons per month | Context |
| Northern Graphite | Lac des Iles, Quebec, Canada (47.3833° N, 78.2000° W) | 10,000-15,000 tpy (ramping to 25,000 tpy) | Context/Knowledge |
| Quantum Graphite | Australia | Not Available | Context/Knowledge |
| Anshan Carbon Co., Ltd | Anshan City, Liaoning Province, China (41.1167° N, 122.9833° E) | 3000 tons/month | Context/Knowledge |
| SGL Carbon | Morganton, NC (35.7496° N, 81.6862° W) | roughly 11,000 tons annually | Context/Knowledge |

**Notes:**

* **Location:** For locations where latitude/longitude coordinates were not provided in the context, I have added them based on my general knowledge. If a specific mine location was unavailable, I used the coordinates for the company's main city or headquarters.
* **Production Capacity:** Production capacities can vary. I've used figures from the provided context where available.
* **Source:** "Context" indicates the information came directly from the provided text. "General Knowledge" indicates the information is from my knowledge base. "Context/Knowledge" means I combined information from both sources.
* **Accuracy:** While I strive for accuracy, the precise location and operational details can be dynamic and may require further verification. The graphite market is dynamic, and this list may not be exhaustive.