



Michael S. (Mickey) Fulp

[www.MercenaryGeologist.com](http://www.MercenaryGeologist.com)

[Contact@MercenaryGeologist.com](mailto:Contact@MercenaryGeologist.com)



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# Graphite: The Newest Next Big Thing

New York May 15, 2012

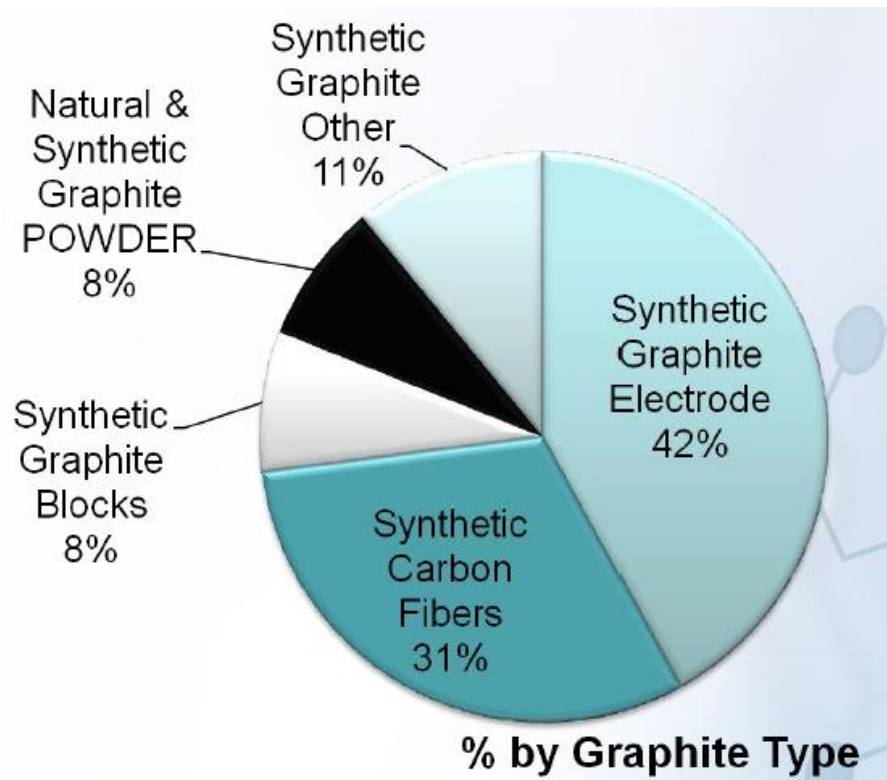


## Graphite Market: Three Sectors

- Synthetic Graphite \$ 8.0 billion
- Carbon Fiber \$ 4.0 billion
- Natural Graphite \$ 1.0 billion
  - Vein 1 %, Flake 49 %, Amorphous 50 %



# World Graphite Market (Ashbury Carbons)







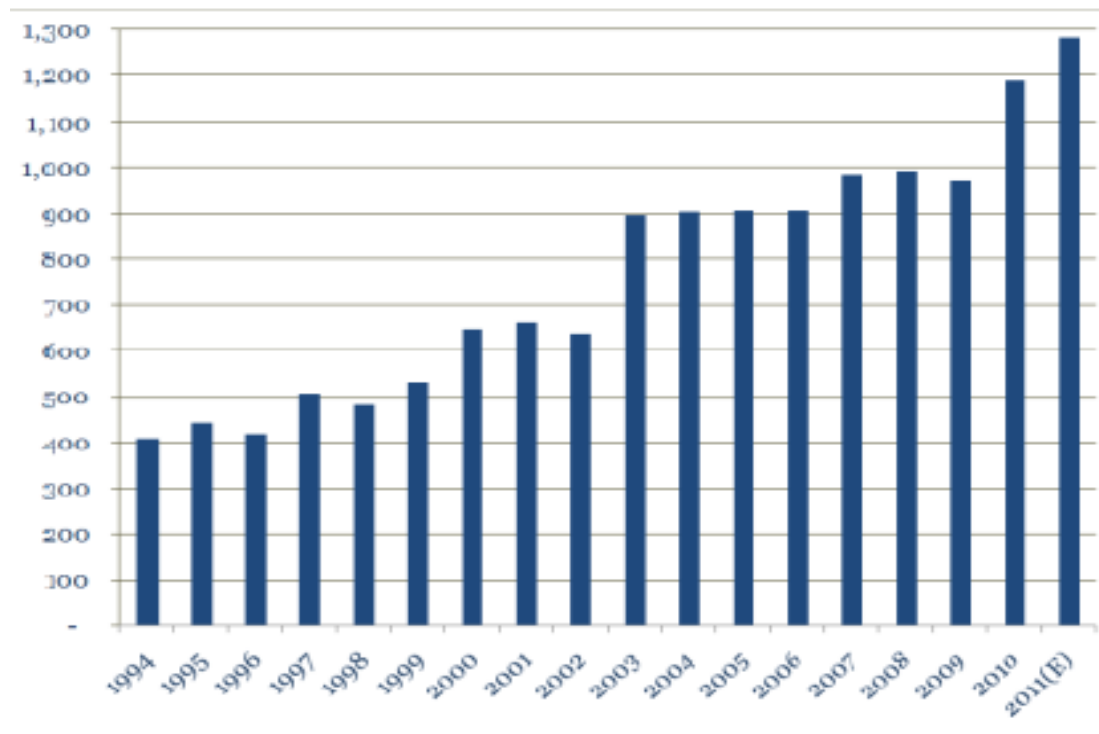
## Natural Graphite Supply

- 2011 Mine Supply : 1.1 million tonnes
- China: 75 % of World Production
- Brazil, N. Korea, Canada, India, Romania
- Norway, Ukraine, Mexico, Madagascar
- Russia, Austria, Turkey, Sri Lanka, Others



# Natural Graphite Demand

Global Graphite Demand (k tonnes)



Source: USGS and Industrial Metals Magazine



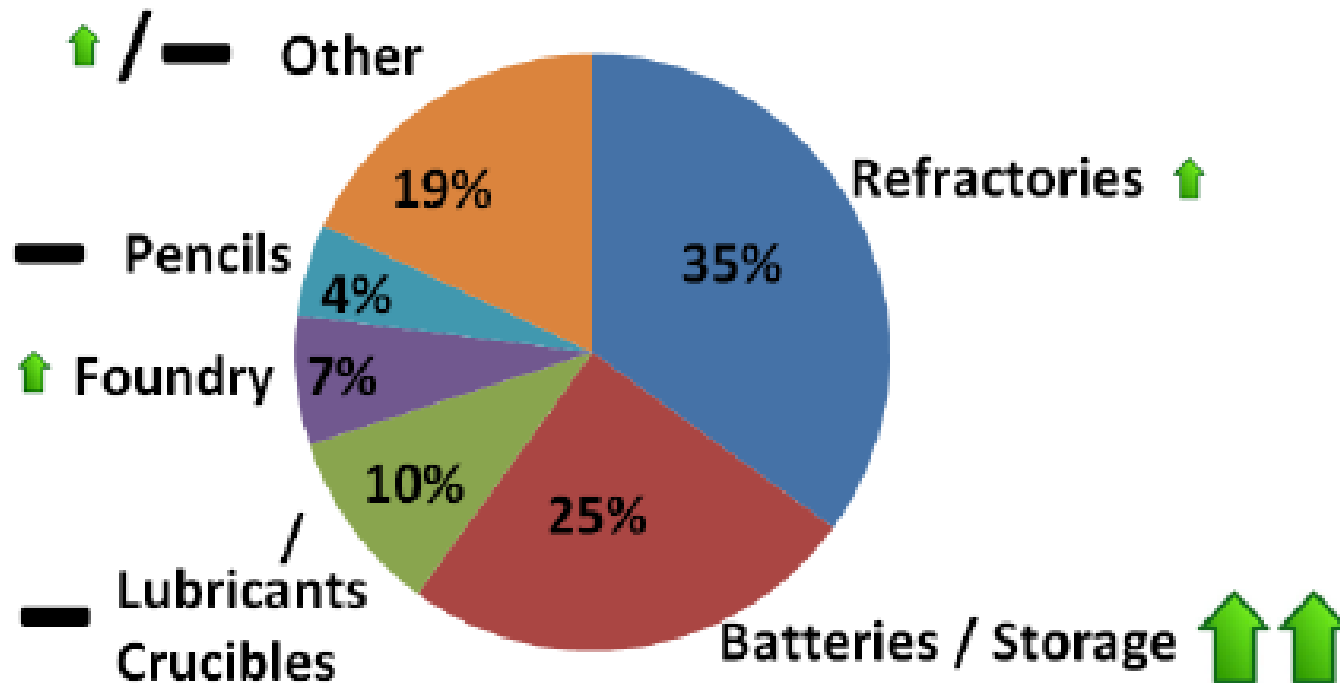
## Natural Graphite: Five Products

- Vein or Lump: High - Priced; Sri Lanka
- Large Flake: +80 mesh; 94-97 % Cg
- Medium Flake: 80 to 100 mesh; 94-97 % Cg
- Fine Flake: 100 to 300 mesh; 94-97 % Cg
- Amorphous: -300 mesh; 80-85 % Cg



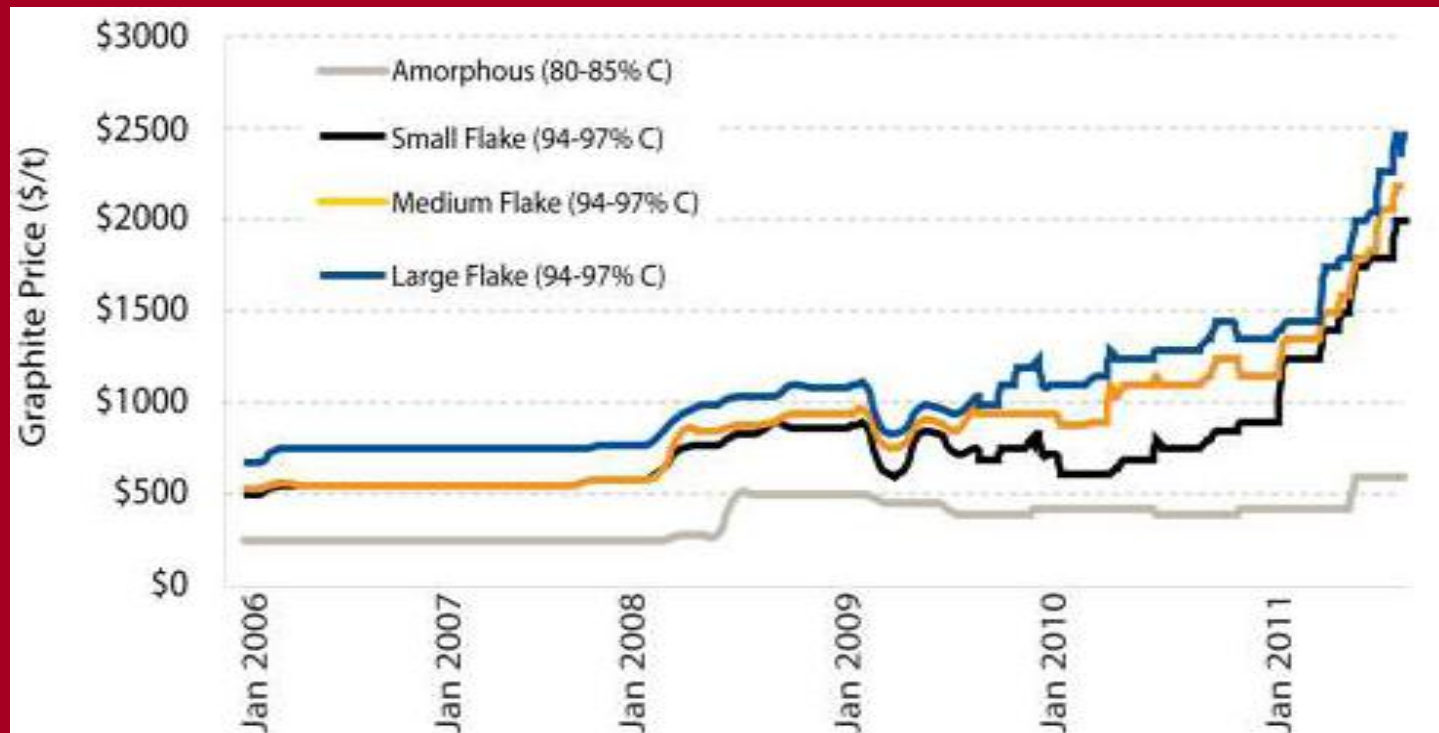


# Natural Graphite Uses (Industrial Minerals.com)





# Natural Graphite Prices (Flinders Resources Ltd)





## Graphite Company Catalysts

- Demand > Supply = Price Increases for Flake
- New Tech Advances : > Flake Graphite Demand
- China : Mostly Amorphous; Small UG Mines
- Western World : Supply = Unreliable & Capricious



## Chinese Domestic Demand

- Steel, Foundry, Refractories, & Automobiles
- Export Taxes, VAT, & Licenses; Quotas Coming ?
- Consolidation into State Monopoly
- Problems: Labor, Enviro, Infrastructure, Transport



## Graphite Deposits & Mines

- High - Grade Metamorphic Rocks
- Small Deposits Thru Out World
- Past - Producers in Many Countries
- Chinese Cut Prices & Flooded Market
- Late 1990s to Early 2000s





## Graphite Companies: Project is Key

- Advanced Deposit or Former Mine
- Geopolitically Stable & Mining - Friendly
- Infrastructure: Highway, Power, Water, Port
- High - Grade & High % Flake
- Open - Pit & Low Strip Ratio
- Metallurgical Process (% Concentrate)



## Graphite Beneficiation

- Mineral Industry = Standard Process
- Crush, Grind, Float, Dry, Pack, Ship
- Often Requires Multi - Stage Grind / Float
- With Reduction in Flake Size Distribution
- Concentrate > 94 % Cg
- Potential Fatal Flaw



## Graphite Mines & Companies

- Low Capex : < \$100 million
- Financing: Off-Take Contracts, Private Debt
- Avoid Equity Dilution
- Lowest Quartile Operating Costs
- M&A: Synthetic & Carbon Fiber Companies
- Mine to Market Companies



## Junior Graphite Bubble

- Few Contenders & Many Pretenders
- May 2011: 2 Graphite Companies
- May 2012: 50 Graphite Companies
- Cream of the Crop:  
Project, Share Structure, People



## Cream of the Crop = Three Companies

- Flinders Resources Ltd Sweden
- Focus Graphite Inc Quebec
- Northern Graphite Corp Ontario
- Galaxy Capital Corp Ont & Que (?)



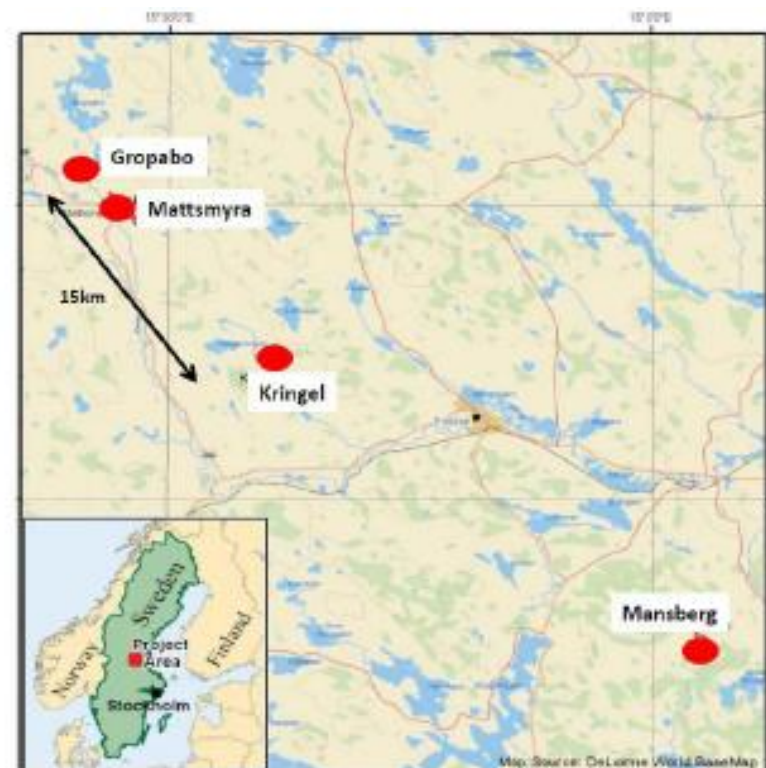


## Flinders Resources Ltd

- Central Sweden : Stable & Mining - Friendly
- Past - Producing, Permitted Mine & Mill
- Open - Pit: 13,000 t /yr ; 100 % Flake
- Resources : 6.9 mm t at 8.8 % Cg
- Financed to Production : Capex  $\leq$  \$20 mm
- Commercial Production : Early 2014



# Woxna Project, Sweden





# Kringle Mine & Mill, Sweden







# Monday Morning Musings from Mickey the Mercenary Geologist





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