

### Anorthite - Diopside System

- Simple binary system with a **simple eutectic** and **no solid solution**
- System is pertinent to gabbroic rocks:
  - crystallizes pyroxene (diopside) and plagioclase (anorthite)

Brock University © G.C. Finn

---

---

---

---

---

---

---

---

### Anorthite - Diopside System

- This system contains two congruently melting compounds **anorthite** and **diopside**
- **Congruently Melting Compound**
  - A compound which when heated melts directly to a liquid of its own composition
    - eg. Solid anorthite has a composition of  $\text{CaAl}_2\text{Si}_2\text{O}_8$  which when heated melts to a liquid with the same composition  $\text{CaAl}_2\text{Si}_2\text{O}_8$

Brock University © G.C. Finn

---

---

---

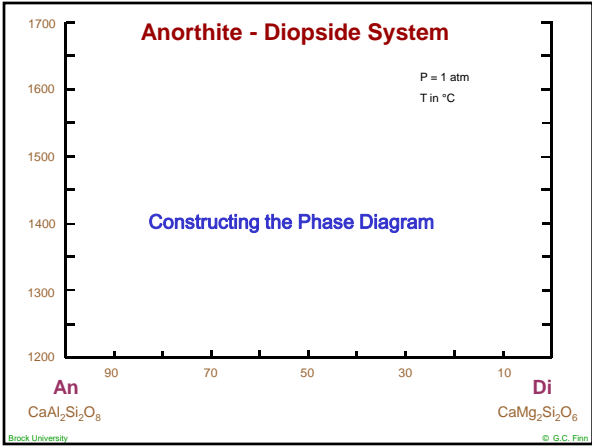
---

---

---

---

---



---

---

---

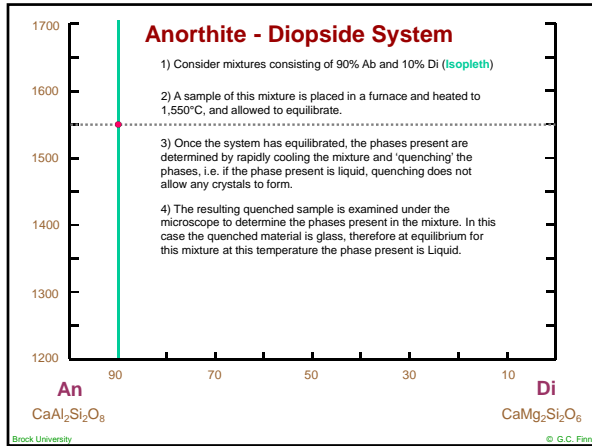
---

---

---

---

---




---

---

---

---

---

---

---

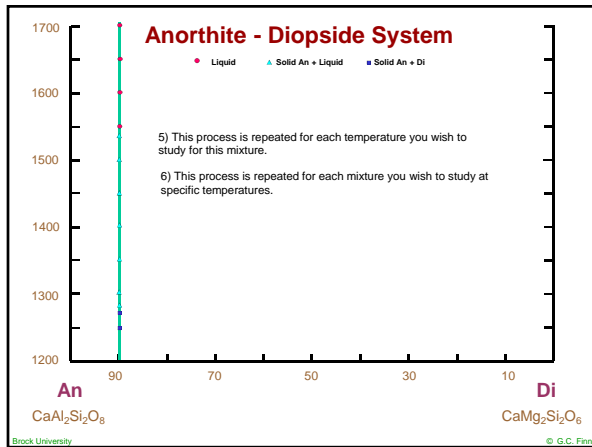
---

---

---

---

---




---

---

---

---

---

---

---

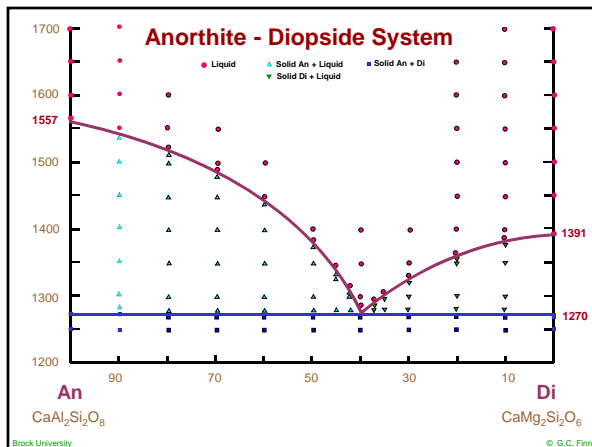
---

---

---

---

---




---

---

---

---

---

---

---

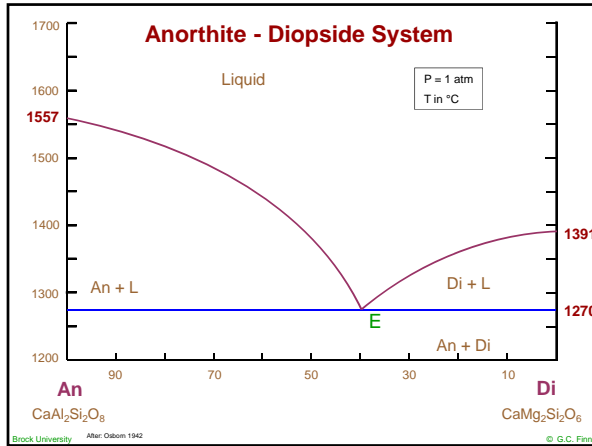
---

---

---

---

---




---

---

---

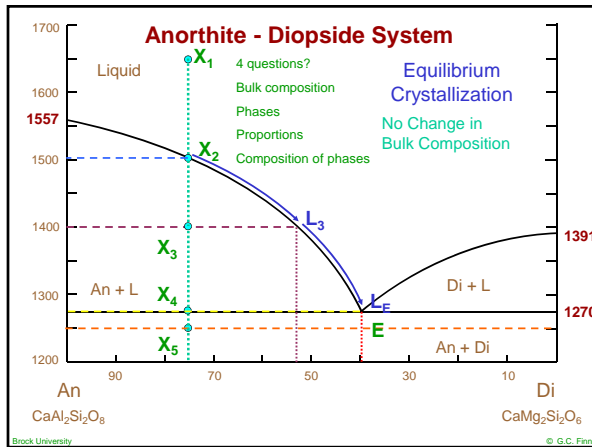
---

---

---

---

---




---

---

---

---

---

---

---

---

**RECAP**

- How to 'construct' a phase diagram
- Equilibrium Crystallization

Brock University © G.C. Finn

---

---

---

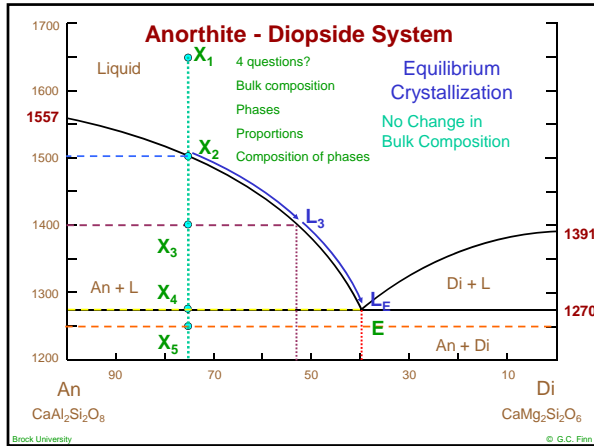
---

---

---

---

---




---

---

---

---

---

---

---

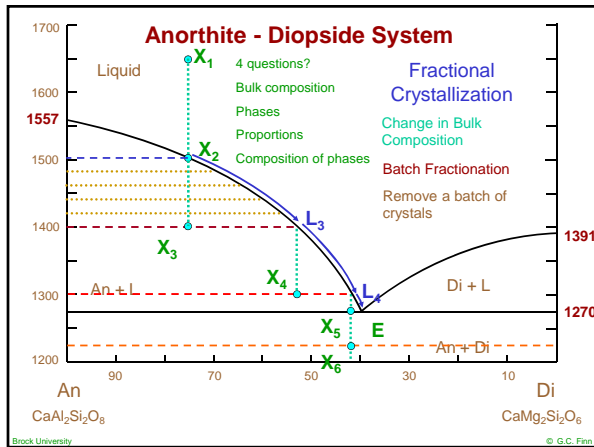
---

---

---

---

---




---

---

---

---

---

---

---

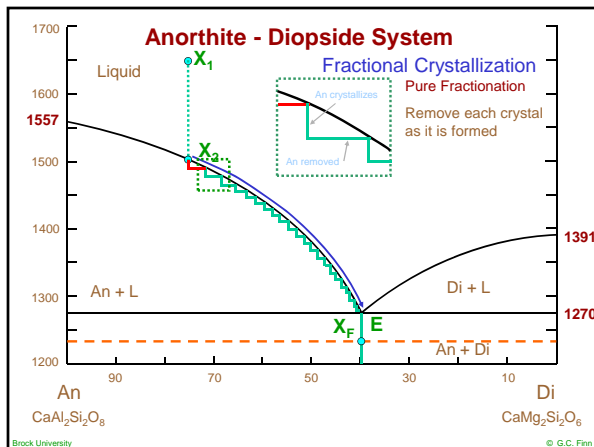
---

---

---

---

---




---

---

---

---

---

---

---

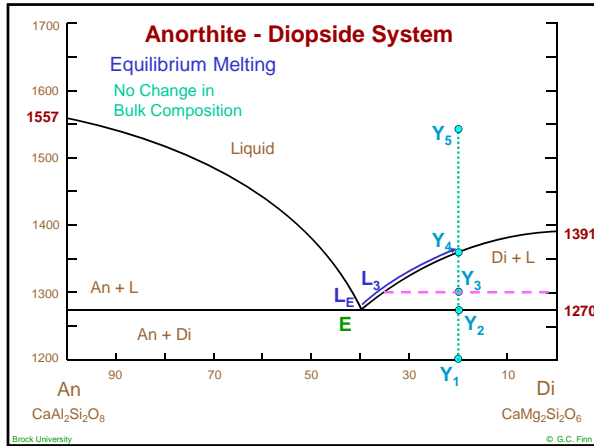
---

---

---

---

---




---

---

---

---

---

---

---

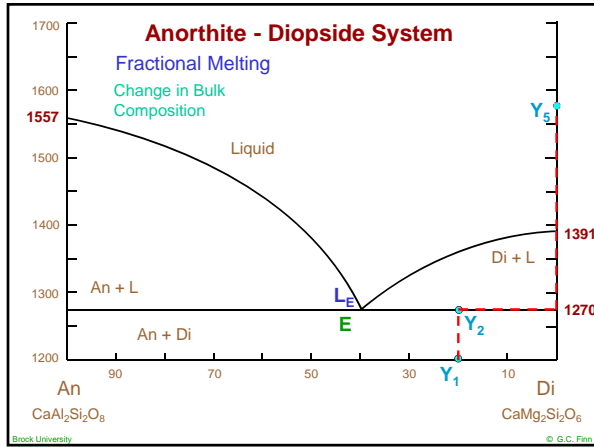
---

---

---

---

---




---

---

---

---

---

---

---

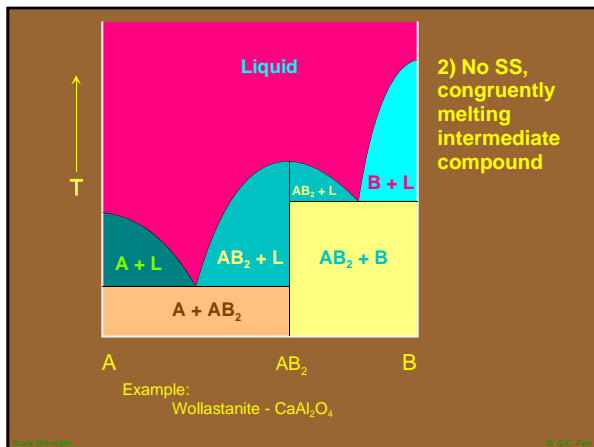
---

---

---

---

---




---

---

---

---

---

---

---

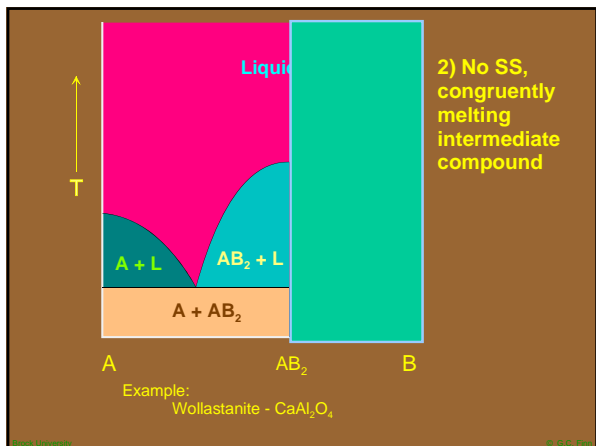
---

---

---

---

---



---

---

---

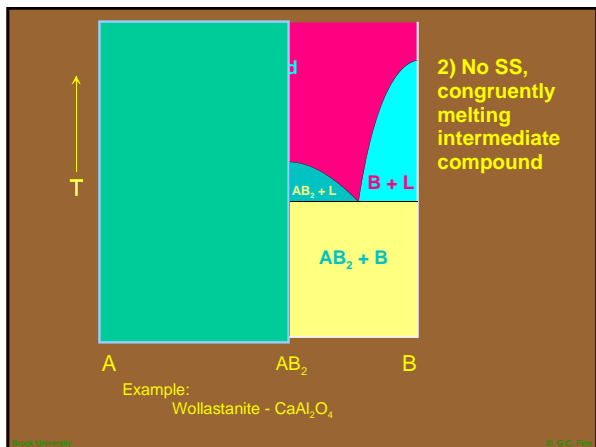
---

---

---

---

---



---

---

---

---

---

---

---

---