



Principal Investigator:

Bjorn Mysen, rm. R204
ph. no. 8975

Secondary Contacts:

George Cody (R216 X8980)

Emergency Information:

Staff Member: 240-506-8427 (cell)
BBR (Gary Bors): 202-510-8577
All other emergencies: 911

Purpose:

Experiments at ambient and high pressure and temperatures to ~2000°C. Ambient-pressure furnaces also can be used to control oxygen activity via CO/CO₂ gas mixing

General Laboratory Features:

- (i) Do not offer to train any other user unless explicitly approved by responsible staff member. Otherwise, all training is done by responsible staff member
- (ii) All equipment brought into the lab or purchased for the lab must be approved by responsible staff member.
 - (ii) Experiments in this laboratory by their very nature can last for days or weeks. In order safe operating conditions,
 - (iii) Before leaving the laboratory, satisfy yourself that all procedures and test are normal
 - (iv) Never begin a long-duration experiment later than 3 hours before leaving the building
 - (v) During working hours, check experiment frequently, in particular during the first 3 hours
 - (vi) Always leave contact information (local phone #, home phone #, and cell phone #) near the instrument
 - (vii) The use of instruments after hours is not restricted. The repair of instruments is not to be attempted without responsible staff member's explicit approval
 - (viii) Keep Laboratory Doors Locked during off hours unless you are actively using the facility.
 - (ix) Fire extinguisher is located near entrance door
 - (x) Emergency shut-off is located next to the entrance door
 - (xi) Emergency shower is located in middle of room

Specific Laboratory Features:

- Hazards: Very high temperature, gases (some toxic) under pressure
- Burn and and both onert and toxic gas inhalation possible. Can cause severe burns or death. Use protective gloves (available) and eye protection.
- Compressed gas, storage, and disposal
 - (i) Appropriate regulators are required for compressed gasses. All compressed tanks must be stored in the storage area.
 - (ii) Unused tanks must have end-caps securely fastened. Do not store H₂ in close proximity to O₂.
 - (iii) All in-use tanks must be securely attached to fixed bodies, e.g. bench top.
 - (iv) Empty tanks are to labeled "EMPTY" and returned to the loading dock storage area for pickup. Specialty gasses from suppliers other than Roberts or Airgas will require special arrangements for pick up.



Whenever using gas mixing:

- (i) Initiate process by purging with inert gas (ie, CO₂) before adding combustible gas (H₂ and/or CO)
- (ii) Upon completion of experiments, turn off flow of combustible gas first
- (iii) Ensure that CO alarm is turned on when using CO gas
- (iv) Never use gas mixing except through designated flow meters
- (v) Ensure that furnace is gas tight before use. Monitor leaks with CO meter and emf of electrochemical cell

- Whenever using high-temperature/pressure:
- Make sure that you have read and understood operating procedures placed near the apparatus
 - (i) Use protective glasses whenever handling high-pressure equipment and when extracting samples and cleaning sample-containing bomb
 - (ii) Use gloves when assembling parts for high-pressure experiments and when extracting samples
 - (iii) Clean up immediately whenever there is a spill of water and/or hydraulic fluid
 - (iv) Wash your hands thoroughly before and after initiation and completion of an experiment

Sample labeling and storage:

This laboratory is not for sample storage. If you need to leave a sample behind before proceeding to further sample processing, ensure that it is clearly marked with content and ownership.

Laboratory User

I agree that I have thoroughly read and understood this laboratory safety document. I have access to this safety information at all times when I am working. I have been trained to be able to identify the hazards to which I may be exposed and to follow the work practices and procedures discussed in this document. I certify that I will conduct my research work safely and that I will be responsible for following stated safety policies.

User Name (Print)

User Signature

Date

Principal Investigator

I certify that the information presented in this safety document is accurate and complete. I agree to comply with all safety procedures and to fully train and supervise all researchers under my direction.

PI Signature

Date