Boron - Why do we care?
Lab prepares samples for atom counting, one by one. Boron gets in the way.

The lab is used for ultra-sensitive analyses:

- ppq = one human hair out of all the hair on all the heads of all the people in the world
- ppt = one square foot of floor tile on a kitchen floor the size of Indiana

Boron - What is it?
- A light element
- Commonly used for:
  - Fireproofing
  - Glass making
  - Insecticide
- Non toxic
- Natural sources

Boron - Where does it come from?
US and Turkey are the world's largest producers of boron.
Boron is a natural element that occurs in rock formations.

Boron - Causing Trouble
Boron-Contaminated post fire from sheetrock and fiberglass?
Normal Sample from uncontaminated lab
Boron - Where can you find it?

Boron is a natural element that is added to drywall as a fire retardant.

As a fire-retardant in blown in cellulose insulation, usually boric acid.

As a part (about 5%) of fiberglass insulation, usually as borosilicate glass.

Boron is present in and on most HVAC systems as a fire-retardant in filters and as borosilicate fiberglass insulation.
As Borax, boron is a common additive to soaps and laundry detergents.

Boron is found as various compounds in cosmetics and other health products.

Boron is found as boric acid in insecticides, specifically roach killers.

Boron is used as a fungicide applied to wood, concrete, and other masonry.
Boron- What to do about it?

1. Keep fiberglass out of the lab and air system.
2. Keep insecticides and fire retardants away.
3. Do not use soaps and detergents in the lab.
4. Keep sheetrock out of the lab.
5. Don’t wear sheetrock/fiberglass- contaminated clothing and boots in the lab.
6. Don’t bring tools grossly contaminated with sheetrock dust or fiberglass into the lab.
7. Be wary of substitutions.
8. Check labels.
9. Get cleaner as completion approaches.
10. Ask if you have questions.