



New Bedford High School Environmental Investigation Univent Dust Issue

Wednesday – January 25, 2012



Issue

White dust

- **Observed near certain unit ventilators (univents) in some B-Block classrooms.**
- **Prevalent in third floor univents with heating & cooling capabilities.**
- **Also observed to lesser degrees in 2nd and 1st floor units.**

Concerns regarding health impacts, if any



Health and Safety

□ Aluminum oxide is not a health hazard

- **ACGIH* TLV** – 1 milligram per cubic meter (mg/m³)**
 - **Highly visible dust cloud at this concentration**
- **Primarily a nuisance**
- **Maintenance headache for facility engineers**

* - **ACGIH – American Conference of Governmental and Industrial Hygienists**

** - **TLV – Threshold limit value – A recommended workplace exposure guideline that is based on health effects data collected by ACGIH. TLVs are air concentrations that workers can be exposed to without adverse health effects.**

Data summary

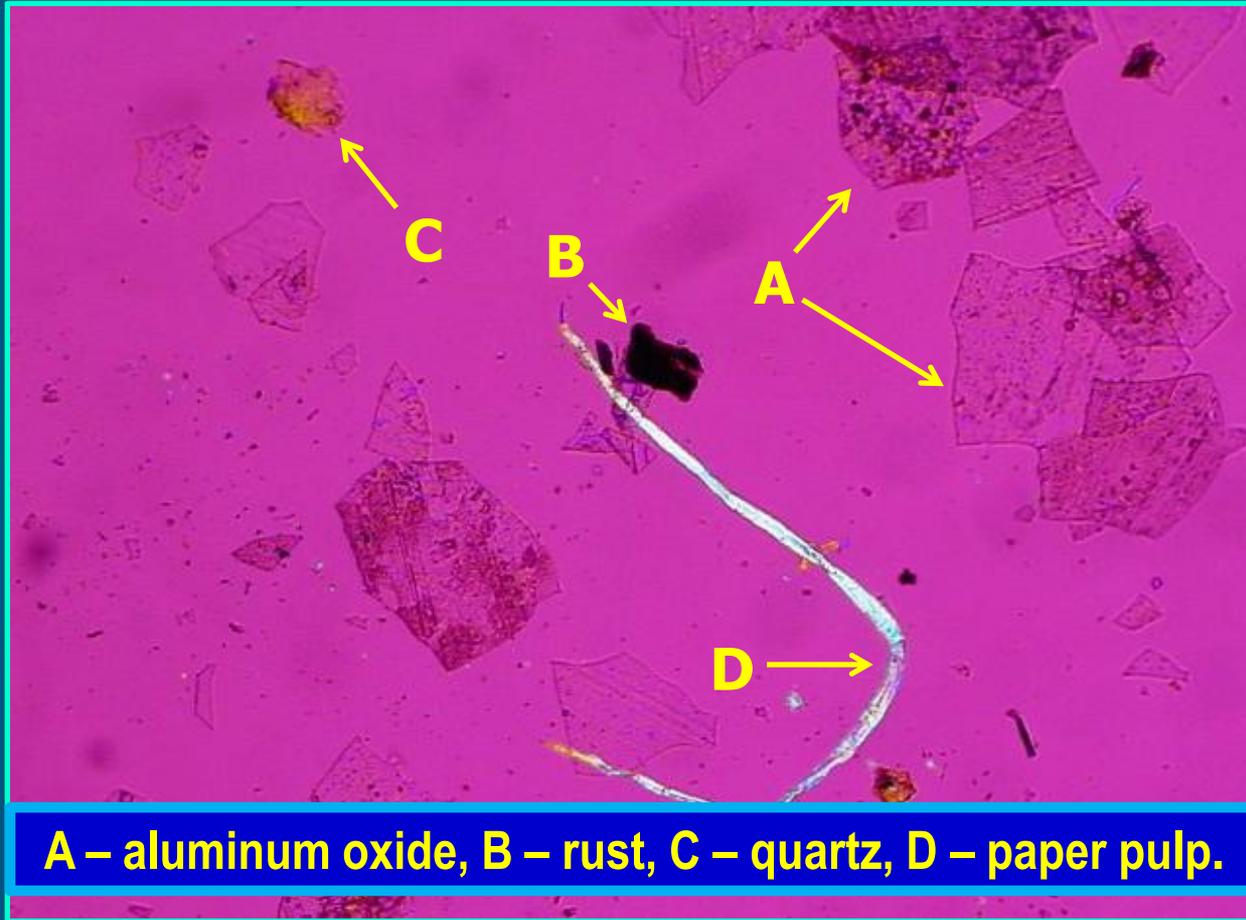
Inspection Summary

- ❑ White dust submitted for laboratory analysis on January 6, 2012.
 - Polarized Light Microscopy (PLM)
 - epi-Reflected Light Microscopy (RLM)
 - Stereo Microscopy
 - Scanning Electron Microscopy (SEM)
 - Energy-dispersive X-Ray Spectrometry (EDX)

- ❑ EMSL Analytical, Incorporated of Cinnaminson, New Jersey).
 - Nationally recognized industrial hygiene laboratory

Photomicrograph

Polarized Light Microscopy (PLM)



A – aluminum oxide, B – rust, C – quartz, D – paper pulp.

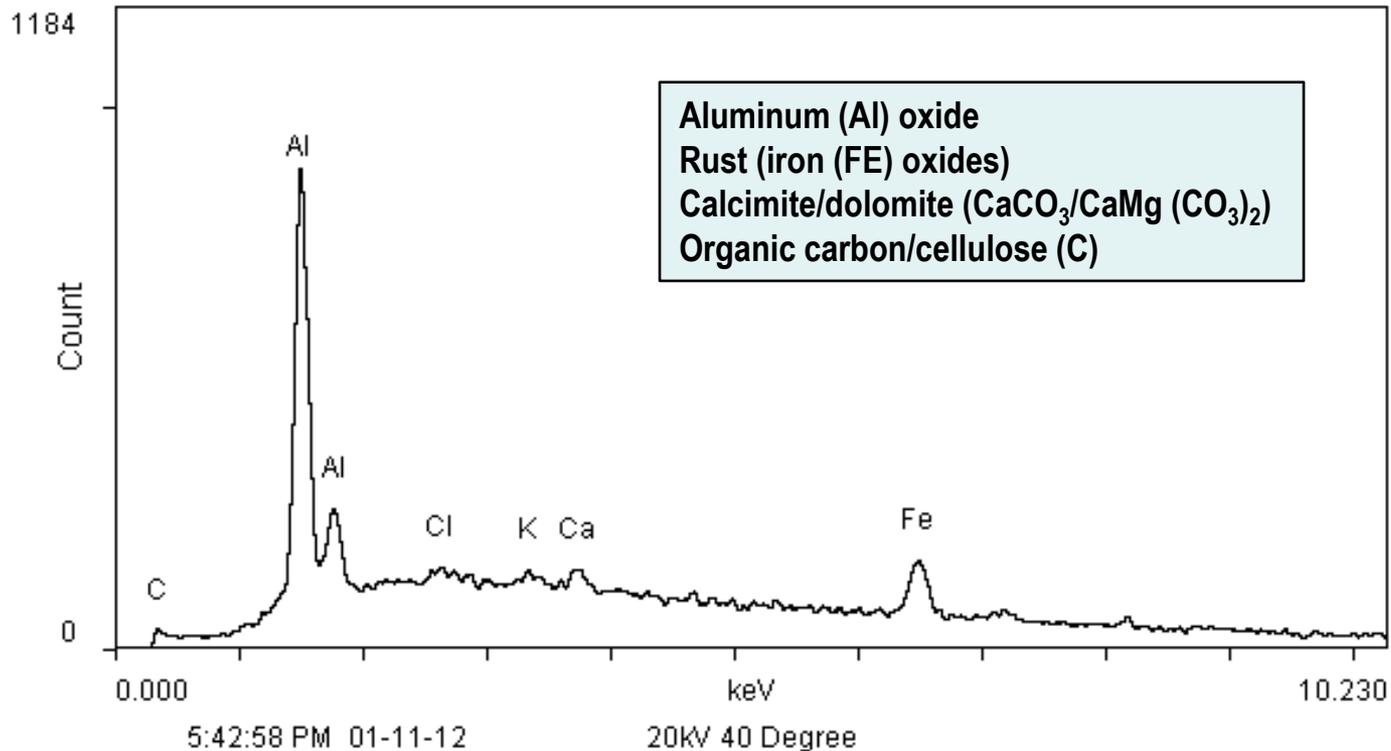
White Dust Microscopy

Summary of Results

- **Aluminum oxide** – 85 percent
- **Rust** – 5 percent
- **Cellulosic material** – Less than 3 percent
- **Glass** – Less than 2 percent
- **Quartz** – 1 percent
- **Calcite/Dolomite** – 1 percent
- **Unidentified inert organics** – 1 percent
- **Unidentified inorganics** – 1 percent
- **Gypsum/anhydrite** – Less than 1 percent

Other analysis

Scanning Electron Microscope (SEM)/ Energy-dispersive X-Ray Spectrometry (EDX)



Evaluation of Cause/Next Steps

❑ Corrosion

➤ Various mechanisms

- Galvanic corrosion?
- Unique conditions at the school?
- Other?

❑ Continue investigation

❑ Work with team and manufacturer



For more information

- ❑ Contact school administrators with any further questions or concerns about this issue.
- ❑ Contact **Cheryl Henlin** with questions regarding the Parker Street Waste Site (which includes NBHS) and/or to be added to the e-mail or mailing list at **(508) 961-4576** or **Cheryl.Henlin@newbedford-ma.gov**
- ❑ The NBHS page of the City's website
<http://www.newbedford-ma.gov/McCoy/sitemap/nbhs.html>

Thank You for Your Time and Attention

Questions are Welcome