

## The Problem

- Water damaged materials were found during 2004 NCBC
  - Damaged materials were irreplaceable historic negatives
  - Damaged materials were on middle shelf of 6' shelves
- Museum archive to hold photographic collection
  - Acetate based materials in 30' x 28' x 7' room
    - Maintain at 60°F ± 2°F, 50% RH ± 2%
  - Nitrate based materials in 14' x 24' x 7' room
    - Maintain at 50°F ± 2°F, 50% RH ± 2%
  - Two unit coolers and two desiccant dehumidifiers per room
    - 100% redundancy
- Roof less than 2 years old with no history of leaks since replacement
  - No rain since materials were known to dry
- NO plumbing above space

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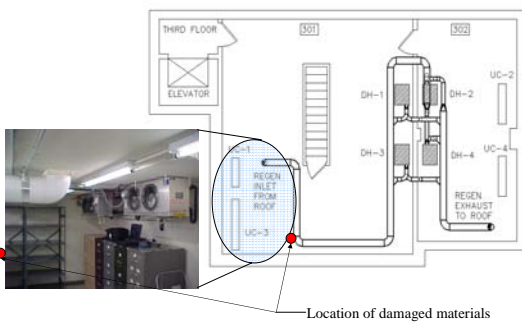
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## The Space



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## Water Damage Indications Everywhere

- Many indications of past water problems
- No current wet areas found
- All thought to have been from roof leaks from old roof



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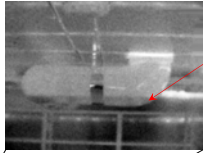
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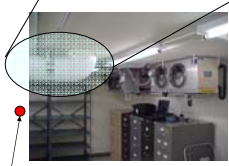
## The Cause

Infrared



Water level in duct

- Condensation in regeneration air ducts found to be leaking onto top shelf, then down column
- Water ran down column until the middle shelf where damaged materials were touching column



3/24/04 Location of damaged materials



View into regeneration duct from roof

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