Lead in Construction Materials
Qualities of Lead

• Lead is
  – Very heavy
  – Soft
  – Easily worked
  – Metal
History of Lead Use

• Goes back several centuries
  – Used during the Roman Empire
    • Line water storage tanks
    • Line aqueducts
    • Make water pipes
    • Pottery
Lead Affects the Body

• Lead is a poison that adversely affects
  – Blood forming systems
  – The brain
  – The nervous system
  – The kidneys
• Children are the most vulnerable
Exposure Limits

• The exposure limit for lead
  – In air is 50 micrograms per cubic meter of air (µg/m³) over 8-hours
  – In blood levels the upper limit in adults is 10 µg/dL
Lead in Our Environment

• Lead is very pervasive in our environment
  – Leaded gasoline is a major contributor
• All have been exposed to lead and have a baseline blood level
• The important aspect is to limit exposure as much as possible
Use of Lead

• Over the years lead has been used in building construction
  – Roofing
  – Electrical conduit
  – Water and sewer pipes
Use of Lead, continued

• Most extensive use of lead in construction that would likely be encountered today is lead based paint.
Exposure to Lead

• For adults the most likely route of exposure is inhalation
Inhalation

• Inhalation would most likely occur from grinding, sanding or heating lead based paint
Scraping

• It is possible for scraping to produce an exposure if a large amount of scraping is done or if the paint has a very high lead content
Building Components with Lead Based Paint

• The most likely building components where lead based paint were used are
  – Window and door trim
  – Baseboards
  – Metal

• Generally not a lot of lead paint was used on campus and when it was used the lead content was not very high
Paint Scraping Projects

- Projects involving large amounts of paint scraping or preparation should be checked for lead prior to initiation
Lead Based Paint Analysis

- EHS has the capability of analyzing painted surfaces for the presence of lead.
Lead Based Paint Analysis, continued

• The analysis is completed with a Niton XRF which uses x-rays to identify the presence of lead.
Certified Lead Inspectors

• Certified lead inspectors complete the analysis as they are qualified to operate the XRF
• Jay Thomas is the inspector currently responsible for lead based paint inspections on campus
Database

- EHS has a fairly extensive database which we can utilize for information regarding lead based paint on campus.
General Procedure for Dealing with Painted Surfaces

• Have all large projects checked for lead based paint
• Never sand, grind or heat painted material unless you know it doesn’t contain lead
• Collect all paint chips even if on the exterior of the building
General Procedure for Dealing with Painted Surfaces, continued

• If lead based paint is present, EHS will assist in the development of a lead management plan which may include abatement

• If abatement is necessary, EHS personnel can address small projects

• Large scale operations may require a contractor complete abatement
Limited Exposure

• The key to working with lead based paint and other lead construction components is to limit your exposure as much as possible

• For additional information or assistance contact EHS at 205-348-5905