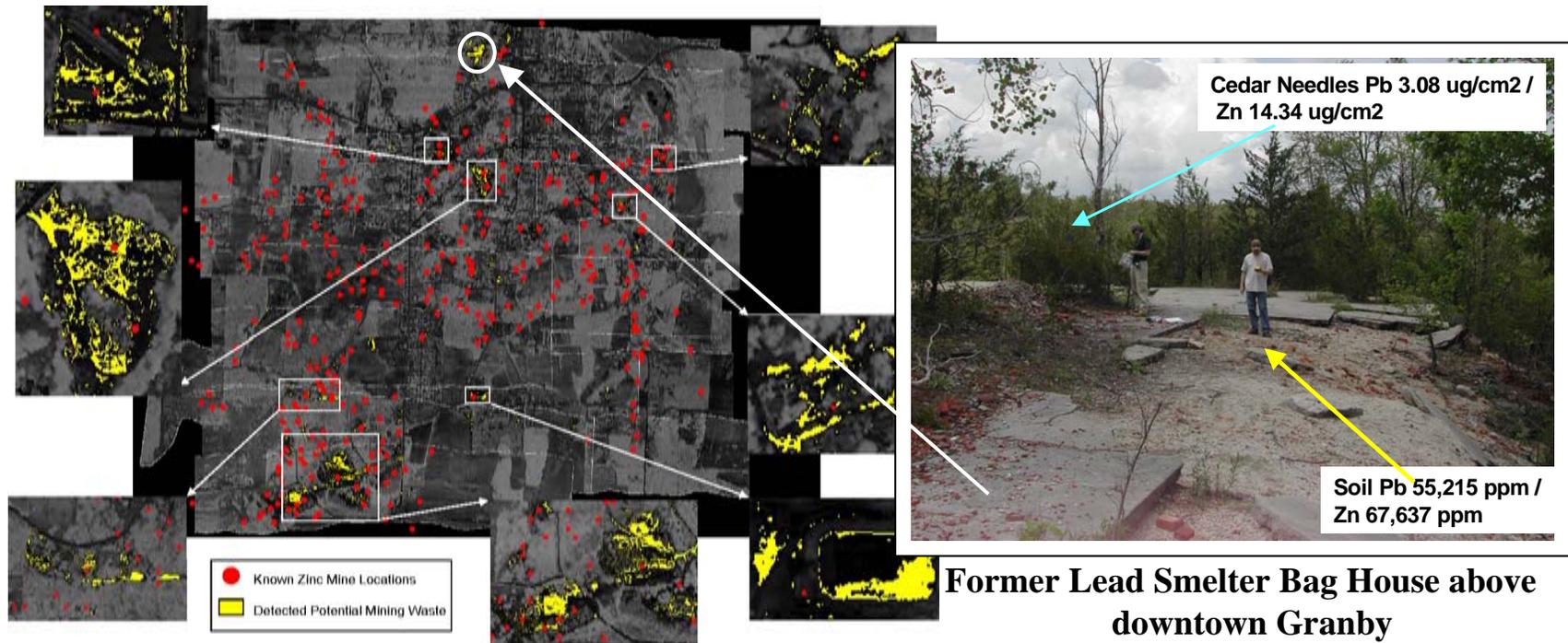


ATTACHMENT 9 - IMAGERY ANALYSIS OF GRANBY MINE WASTE



- **Objective**
 - Using signature of known lead mining waste, locate other areas where mining occurred or chat/tailings were reused.
 - Collect data on zinc levels in Cedar trees in contaminated areas.
- **Approach**
 - Project Manager identifies known mining area/mine waste from imagery.
 - Use signature of known mine waste for SAM analysis to identify other areas in imagery where mine waste remains or has been reused.
 - Plot select number of contaminated & non-contaminated locations.
 - Collect field data with XRF.
 - Collect Cedar needles & XRF readings around Cedar trees in contaminated areas.
- **Conclusion**
 - HSI SAM analysis did provide general locations of mine waste for several areas surveyed. More extensive field work is needed to determine level of false alerts.
 - Mine waste with high zinc levels appears to inhibit vegetation growth, and may be detectable with Hyperspectral Imagery. However, more data is needed to determine if there is a detectable difference between contaminated and non-contaminated tree signatures.
 - One site, a former Lead Smelter Bag House, had significantly high levels of lead in the soil and smelter waste in the area.