The Technical Review Workgroup for Metals and Asbestos
Asbestos Committee Annual Report:
Accomplishments and Activities for Calendar Year 2015

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Technical Review Workgroup: Asbestos Committee Accomplishments of Calendar Year 2015

Reports and Guidance Development on Asbestos Site Characterization and Risk Assessment

1) **PROJECTS TO IMPROVE THE SAMPLING AND ANALYSIS OF ASBESTOS IN SOIL AND AIR:** The Technical Review Workgroup (TRW) is dedicated to supporting and promoting consistent application of the best science in the field of risk assessment for asbestos at contaminated sites. To support this mission, the TRW continually evaluates current asbestos-related sampling and analysis research, products and tools. An overview of these efforts for 2015 is below.

   A) Zonolite Attic Insulation
      - Discussed the validity of the ASTM method for determining whether the vermiculite is from Libby.

   B) Automated Counting Project: The purpose of this project is to evaluate the use and accuracy of using high-content image analysis to automate asbestos fiber counting.

   C) Microscopy Techniques: Scanning Electron Microscope (SEM), Energy Dispersive X-Ray Microanalysis (EDS) and Electron Backscatter Diffraction (EBSD).

   D) National Asbestos Data Entry Sheets: National Asbestos Data Entry Sheets (NADES) is a spreadsheet tool for electronic data entry used by laboratories.
      - Revised NADES & Scribe export/import function.

   E) Soil Sampling/Method Comparison: Investigation of three soil analysis methods (CARB435, ASTM, FBAS) to help determine the degree to which they accurately quantify asbestos contamination. In addition, the TRW was involved in the Fluidized Bed Asbestos Segregator (FBAS) Methods Improvement Study to investigate options for improving recovery.

   F) Low Magnification Analysis of Air Filters: Current practice for sample analysis is to use the high magnification option for the Transmission Electron Microscopy (TEM) analytical method. Examining filters under high magnification may require more time to reach risk-based data quality objectives and may be more expensive than low magnification analysis. The expense often results in fewer samples being collected and analyzed at a site.
      - Continued development of draft recommendations regarding low magnification phase contrast microscopy equivalent (PCMe) analysis and exposure point concentration (EPC) statistics for low-level fiber counts.
      - Developed Draft Memorandum on the correlation between low and high magnification analysis of asbestos fibers.
      - Sample size/data interpretation decision tool.

G) Template QAPP Development:
   - Continued discussion of Quality Assurance Project Plans (QAPP) template in the Uniform Federal Policy format.

2) RISK ASSESSMENT SUPPORT: The TRW Asbestos Committee continues to develop guidance, provide both clarification on existing guidance and support to regional risk assessors with site-specific questions and work collaboratively to ensure consistency across asbestos-contaminated sites nationally. The following projects were undertaken to support work being conducted in the regions.

A) Framework Update: The Framework for Investigating Asbestos-Contaminated Superfund Sites (i.e., "Framework") provides the general approach for evaluating asbestos-contaminated sites using the best available science. The information and resources within the Framework document provide the tools needed to support site characterization and exposure estimates in support of risk-based removal and remedial actions. The Framework is needed because there are a number of unique scientific and technical issues associated with the investigation of human exposure and risk from asbestos, and it is important for risk assessors and risk managers to understand these issues when performing assessments of asbestos sites. The Framework is being updated to incorporate the latest science.

B) Indoor Sampling Recommendations Addendum to Framework: The Committee developed recommendations on the preferred approach for indoor sampling at asbestos sites.
   - Posted recommendations on sampling (*e.g.*, stationary sampling, aggressive air sampling, dust sampling) for asbestos in indoor environments to supplement the Framework (OSWER, 2008). See http://www2.epa.gov/superfund/superfund-asbestos-technical-resources#other

3) OTHER TRW ACTIVITIES:

A) Field Operations/Health and Safety Projects:
   - Continued development of Health and Safety Protocols for site sampling.

B) One EPA Asbestos Website:
   - Assisted with the incorporation of the existing TRW website materials into the one-EPA format.

C) Releasable Asbestos Field Sampler Verification and Report Review: Releasable Asbestos Field Sampler (RAFS) is a small, portable system for determining the potential for

exposure to asbestos fibers released from soils. The purpose of this effort was to review of Office of Research and Development's (ORD's) research to develop the RAFS as a potential screening tool to measure the releasability of asbestos from soils on site.
    - Review and discussion of the draft final RAFS verification test report.
    - Drafted memoranda to ORD, Office of Emergency Management and Office of Superfund Remediation and Technology Innovation that indicated the TRW should discontinue the RAFS research based on the findings of the TRW Asbestos Committee.

D) Asbestos in the Superfund Chemical Data Matrix: The Superfund Chemical Data Matrix (SCDM) is a source for factor- and benchmark- values applied when evaluating potential National Priorities List (NPL) sites using the Hazard Ranking System (HRS) (e.g., cancer/noncancer risk screening concentrations).
    - Provided technical guidance on the use of the CalEPA oral slope factor and the EPA maximum contaminant level in SCDM.

Communication, Training, and Outreach

Hotline: The TRW Asbestos Committee responds to questions from inquiries made either by telephone (toll-free 1 866-282-8622) or email (asbestoshelp@epa.gov) to the TRW Asbestos Committee hotline. The TRW Asbestos Committee responded to 19 requests for assistance in 2015. Of these calls, approximately half 99) were from state or federal agencies. There was one international (Israel) request. The remaining 10 calls were from other sources (concerned citizens, engineering and consulting firms). Common issues included questions related to Asbestos NESHAP, asbestos analysis, methods and sampling.

Presentations/Training: TRW Asbestos Committee members presented at a number of conferences and training meetings in 2015. These are listed in the table below.

Meeting/Presentation /Training	Location	Dates	TRW Member	Title of Presentation
ASTM Conference	Anaheim, CA	4/30-5/1	David Berry	• Background Investigation for Libby Amphibole Asbestos in the Kootenai Valley • Fluidized Bed Asbestos Segregator Preparation Method - An Update • Development of a Non-Cancer Toxicity Factor for Libby Amphibole Asbestos • Evaluation of Cumulative Human Health Risks from Asbestos Exposure at the Libby Asbestos Superfund Site

			Julie Wroble and Tim Frederick	• Incremental Sampling: An Overview and its Application for Sampling Asbestos in Soils • Comparative Methods Study – Emerging Techniques for Sampling and Analysis of Bulk Soils: Sumas Mountain Naturally Occurring Asbestos Site
OSWER Human Health Regional Risk Assessors Forum (OHHRRAF)	Denver, CO	11/16-19/15	Chuck Nace David Berry	• Update on 2015 accomplishments and 2016 plans
Public Meetings	Boulder City, NV Boulder City, NV	09/01/15	David Berry	• Toxicity of Amphibole Asbestos • Toxicity of Amphibole Asbestos
USDOT Agency Meeting	Carson City, NV	09/01/15	David Berry	• Toxicity of Amphibole Asbestos • Libby Asbestos Superfund Site: Out of the Darkness
Salish Sea Ecosystem Working Group Meeting	Seattle, WA	6/18/15	Julie Wroble	• Sumas Mountain Asbestos Site Overview
CLU-in Webinar		7/9/15		• Progress in Research: Reducing Exposure to Mercury, Arsenic, and Asbestos

Website: This website has been developed in coordination with the Agency-wide asbestos website in order to provide Superfund-specific information on asbestos. The TRW Asbestos Committee continues to support the transition to the One-EPA Web format.

Charter: Revised the TRW Charter to include TRW members' roles and responsibilities, which are designed to further advance the TRW's mission to support and promote consistent application of the best available science in the field of risk assessment for asbestos at contaminated sites.

Coordination with Regions, EPA Program Offices, and Other Federal Agencies

Site Assessment: Provided input on the SCDM for asbestos site assessment.

Region 2: Collaboration with asbestos contamination and sampling efforts for school and site in Puerto Rico.

Region 3: Discussion and support for the Maryland Soapstone Mine and naturally occurring asbestos with the state of Maryland.

Region 5: Discussed the prevalence of and exposure to asbestos-contaminated well water at the Johns Manville Site (Waukegan, IL).

Region 6: Provided technical support on use of Libby Amphibole toxicity values in risk screening for removal assessments at sites in Texas, New Mexico, and Louisiana).

Region 8: Discussed the SAB review of Libby Amphibole inhalation reference concentration (RfC) and inhalation unit risk (IUR), the RAFS Verification Test and Report Review, and the Libby Action Plan Filter Verification Study. Discussed comments from W.R. Grace on the RfC for Libby Amphibole asbestos.

Office of Research and Development's National Center for Environmental Assessment: Coordinated with ORD's National Center for Environmental Assessment on applicability of Libby Amphibole Asbestos toxicity values.

Office of Air and Radiation: Collaborated with the Office of Air and Radiation staff to review and provide comments on the Office of Inspector General's report on Asbestos Release during National Emissions Standards for Hazardous Air Pollutants (NESHAPs) demolitions.

Coordination with Other Workgroups

University of Pennsylvania: Held discussions with researchers at University of Pennsylvania's National Institute of Environmental Health Sciences Superfund Research and Training Program regarding research on asbestos.