

## **CASE STUDY: ASBESTOS LIABILITIES - VERMICULITE INSULATION IN RESIDENTIAL ATTICS**

### **Project Description: Incomplete abatement - Missed home inspections**

**Scope of Services:** AET was contracted by a homeowner to evaluate suspect vermiculite debris found near a vertical chase opening in the basement of her home. The homeowner who had lived in the home for only 3 years had the multi-million dollar residence inspected multiple times by home inspectors prior to purchase. The suspect vermiculite debris had been cleaned up by the homeowner using the household vacuum cleaner on previous debris discoveries.

**AET's Experience:** Vermiculite is a naturally occurring light weight, fire resistant mineral which looks like shiny, small pieces of popcorn and is usually light brown to gold in color. Over 70% of the vermiculite used world wide originated from a Libbi Montana mine (which closed in 1990). The vermiculite mine was used under the trade name Zonolite Attic Insulation and was poured into the rafters of over 940,000 American homes. EPA studies indicate the Libbi Vermiculite was contaminated with a natural deposit of Tremolite asbestos at the mining site. Significantly higher instances of lung disease including cancers have been verified to the miners and residences of Libbi Montana.

### **AET's Investigative Approach/Sampling/Tools:**

1. **Vermiculite Confirmation/Asbestos Content:** Bulk sample analysis in AET's NIST/NVLAP Accredited Laboratory found the debris was vermiculite with an asbestos content of 2.6% Tremolite asbestos by weight.
2. **Source Identification:** Visual inspection of the attic found exposed fiberglass batting insulation in the attic joists. A portion of the attic had a plywood floor covering the floor joists. Carefully pulling back of the fiberglass insulation found residual vermiculite insulation below the batting. Further inspection found several vertical chase openings where vermiculite insulation had fallen. The homeowner had no knowledge of who, when or how the original vermiculite insulation was removed from the attic.

**CONCLUSION:** A licensed asbestos contractor was hired to perform the required cleanup in the attic and basement. The fiberglass batting insulation was removed and all attic/basement penetrations sealed under asbestos containment conditions (including negative pressure). The homeowner was cautioned regarding the remaining vermiculite insulation inside sealed wall cavities and chases and the necessity to control renovations which disturb this concealed asbestos.

Project completion was performed by comprehensive visual inspection and final air clearance testing incorporating both aggressive sampling techniques and TEM analysis.

When you need professional asbestos advice email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services on our website [www.aetinc.biz](http://www.aetinc.biz).

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