

RJ Lee Group Columbia Basin Analytical Laboratories

Columbia Basin Analytical Laboratories is a public/private partnership with Columbia Basin College, and is located on the school's campus.



We are certified by the American Industrial Hygiene Association Laboratory Accreditation Program for asbestos analysis. Additional accreditations include analyses for organic chemicals, water, and metals.

Analytical and Laboratory Services

Industrial Hygiene

- Asbestos/Beryllium
- Particulates/Vapors

Organic Chemistry

Nitrosamines, Amines, PCBs, Pesticides, other organics (please call)

Inorganic Chemistry

Drinking water, wastewater, soil analysis
Toxic Characteristic Leaching Procedure (TCLP)

Microscopy

- SEM
- TEM
- PLM/PCM

Mobile Laboratory Services

- PTR-MS
- GC-MS
- Methane/CO₂ Analysis
- VOC Mapping
- Vapor Intrusion

Geotechnical Analyses

- Particle Size
- Gravimetric
- Compaction Testing
- Viscosity

Accreditations

- AIHA
- NY-ELAP
- WDOE
- DOECAP
- NVLAP (available through our Monroeville facility)

Standard Methods

Polarized Light Microscopy: EPA 600/M4-82-020
EPA 600/R-93/116

Phase Contrast Microscopy: NIOSH 7400
Transmission Electron Microscopy: NIOSH 7402

Education

CBC Partnership

- Technical training and certifications
 - o Nuclear Technology
- Faculty
 - o Co-Principal Investigator
 - o Consulting
 - o Training
- Student Internships

Research and Development

Waste Form Development and Testing
Treatment Technologies
Engineered Barriers
Flow and Transport
Feasibility/Treatability Studies
Solid Phase Characterization



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A Columbia Basin College - RJ Lee Group Public/Private Partnership



Asbestos Analysis Services



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What is Asbestos?

Asbestos is defined by the U.S. EPA as the asbestiform variety of six minerals within the serpentine and amphibole mineral groups. Chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite/grunerite), anthophyllite, tremolite; and actinolite. Chrysotile, the most common of these, is still used in some products today.

Due to its superior tensile strength and thermal insulating properties, asbestos was historically used in building materials such as:

- Heating system insulation
- Loose-fill, attic, and wall insulation
- Ceiling tiles, vinyl tiles, sheet vinyl floor coverings
- Tile mastic and construction adhesives
- Roofing materials such as shingles, tar paper, etc.
- "Popcorn" ceilings (acoustic)

What Does RJ Lee Group Offer?

Our technicians are highly-trained to perform analytical services for all aspects of asbestos testing. As one of Hanford's asbestos lab contractors, we are required to be fully equipped and accredited for analysis by Polarized Light Microscopy (for bulk asbestos), Phase Contrast Microscopy (for air monitoring samples) and Transmission Electron Microscopy (for fiber differentiation).

Quick turnaround times are available upon request. Although we do not offer inspections or sampling, we can assist in identifying contractors to perform these services.



Is it Asbestos or Non-asbestos?

Correct identification and classification of asbestos are critical factors for many modern environmental issues. Particle morphology (shape and size), elemental composition (chemistry or EDS spectrum), and crystal structure (SAED pattern) are used to properly identify minerals. Once identified as an asbestiform mineral, it is important to determine whether or not the particle is, in fact, asbestos. Rather than simply relying on aspect ratio alone, close examination of the particle's morphological features, such as whether the particle has parallel sides, and fracture or cleavage surfaces, provides more complete information for analysis.



This asbestos amphibole fiber (about $7 \times 0.15 \mu\text{m}$) is embedded in the filter matrix. The "hair-like" appearance and parallel sides appear to be smooth and somewhat rounded, with no evidence of cleavage surfaces. The absence of fracture surfaces indicate the fiber developed into this shape naturally.



Non-asbestos amphibole particles like the one above ($11 \times 1.25 \mu\text{m}$) are often misidentified and classified as asbestos. Notice that the particle does not have parallel sides or irregular termination at the ends. The visible fracture surfaces indicate that the particle was broken to this shape rather than forming this way naturally.

Want to learn more about our
asbestos analysis services?
Connect with one of our specialists!
509.792.1955