

Overview

The Environmental BioMonitoring Laboratory (EBML) is part of the Environmental Monitoring Branch within ECBC. The laboratories are DoD-owned assets offering unique biological threat agent identification for high-throughput biological monitoring of environmental samples. The laboratories exist in both stationary and mobile formats, allowing the flexibility for the client to bring the environmental sample to the laboratory or for the EBML to bring the laboratory to the sample in the field or incident area. Even before the tragedy of September 11, 2001 and the following anthrax attacks that followed, ECBC researchers recognized the need for a dual approach for analytical testing that addressed both on-site and field deployable biological hazardous materiel testing capabilities. EBML has evolved as a broad-service bio-analytical laboratory outfitted with modern facilities and equipment. Our lab provides a wide range of environmental analytical testing and validation services and has hands-on experience with a variety of challenging environmental sample matrices to include: soil, DFU filters, HEPA vacuum filters, BiSKit and S3 surface swipes, swipe kits, cotton swabs and samples from mail processing.

Mission

EBML has built healthy client relationships throughout the years by focusing on quality laboratory services that generate superior customer service and satisfaction. Many of our clients are repeat customers who value the laboratory's commitment to excellence and responsiveness to individual client needs and project timelines. Our laboratory staff work closely with customers to determine "best fit" methods, custom-tailored configurations, and specialized equipment test outs to provide professional, defensible and cost effective analytical laboratory services to customers. EBML welcomes partnership opportunities with state and Federal agencies and private industry and has experience developing unique and client-specific biological monitoring for individual client programs.



U.S. ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER

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EBML

Environmental BioMonitoring Laboratory

EBML is a "DoD Solution Lab" and primary technical resource for the monitoring of biological threat agent samples. Our laboratory staff is dedicated to building strong customer relationships, determining specialized client needs, and striving to provide superior client satisfaction through our quality services.



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Analytical Services

The stationary EBML is located in a facility at ECBC and offers a wide variety of Biosafety Level 1 and 2 analytical technical services with planned BSL-3 capabilities in 2010. The EBML operates a 1,250 square foot laboratory facility with state-of-the-art equipment selected for its high quality analytical performance. Our laboratory continuously upgrades and expands its instrumentation to offer more analysis capability and maintain its high standards. EBML provides a full range of analyses for monitoring and detecting eight (8) biological warfare agents. Using robotics and high speed analytical instrumentation, our laboratory has the capacity to analyze ninety-six (96) samples in an eight (8) hour timeframe for seven (7) targets using electrochemiluminescence (ECL) detection and polymerase chain reaction (PCR) technology. Our comprehensive analytical capabilities include testing samples from a variety of sources including soils, sediments, DFU filters, HEPA vacuum filters, surface swipes, cotton swabs, ground water and surface water and samples from mail processing. EBML's environmental bioanalytical focus areas cover:

- Validation of protein bioassays, detection platforms and methodologies for biothreat agents
- Conformance and compliance monitoring for biological materials
- Biosensor platform investigations and feasibility studies
- Bacterial identification/classification and toxin identification
- Rapid methods for sample collection, extraction and identification
- Biothreat agent investigations in soils, dry filters and swipes
- MIDI FAME analysis for over 1,500 anaerobic and aerobic bacterial organisms
- Partnership with BSL3 and forensic chemical analysis labs for additional testing
- Customized protocols for bioanalytical testing
- Providing scientifically defensible data for evidentiary samples
- Document and data control management



Quality Assurance and Quality Control

EBML has extensive expertise complying with Biosafety and Biosurety regulations for microbiological laboratory operations approved by Federal, State and Department of the Army regulatory agencies. All work is performed under strict compliance with these regulations, and client or project specific data is generated while adhering to safety and quality requirements.

The primary objective of EBML's QA/QC program is to produce quality data that accurately represents the sample in question and meets the client's needs. The EBML staff is committed to providing accurate and cost effective services that meet or exceed the customer's expectations and requirements.



TESTING CERT #2866.01

Environmental Monitoring Laboratory is accredited by A2LA for technical competence in the field of biological testing using Qualitative Real Time PCR and Qualitative ECL in potentially contaminated samples in buffer matrix or soil tested in both the fixed and mobile laboratories.

Mobile Labs

When you can't bring the environmental sample to the lab, the lab can be brought to the sample. The EBML operates a mobile lab capability with a 24-foot, 5th wheel trailer equipped with a 6-foot Class II BSL2 Biological Safety Cabinet and a Class III Glove Box with an external access port to an internal pass-through chamber. Samples are analyzed by complementary tests using both ECL and real-time PCR technologies. The biological targets analyzed are driven by customer requirements and needs. Sample processing of fifty (50) samples for seven (7) targets is completed within an eight (8) hour work day. The lab is deployable via F-450 truck or military air, has independent electrical power and shore electrical power connection, and is operated by two (2) technicians per shift.

