



News Release

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Recovered munition processed at MAPS facility ECBC successfully completes 'drill and sample' operation

ABERDEEN PROVING GROUND, Md. – On July 17, the U.S. Army Edgewood Chemical Biological Center (ECBC) safely conducted a “drill and sample” operation of a Livens munition suspected to contain phosgene, an agent formerly used in trench warfare during World War I. The munition was recovered last year on the Aberdeen Proving Ground (APG) installation and has been stored at the N-Field bunker since then.

When a munition is found and recovered on the APG installation, it gets processed at the Munitions Assessment and Processing System (MAPS) facility, an 11,500 square foot single-story masonry and steel structure located downrange at Edgewood. ECBC supports APG’s ongoing Installation Restoration Program, which requires a method of safely disposing explosively configured, recovered chemical munitions found on the grounds of the installation. Prior to the operation, the Center’s Chemical Biological Application and Risk Reduction (CBARR) Business Unit reviews all assessment information in the Materiel Assessment Review Board (MARB) database and completed a preoperational survey.

The MAPS facility was constructed in 2003 by the Chemical Materiel Activity (CMA) to safely access, drain, neutralize and decontaminate the waste of chemical munitions and containers, and to detonate the remnants of explosively configured munitions with engineering controls. The facility ultimately transitioned to ECBC ownership, where trained operators and expert technicians from CBARR safely separate the liquid payload from the munition components, decontaminate those components and transfer the liquid fill into a bottle certified for transport by the Department of Transportation. The drained sample is analyzed at CBARR’s Environmental Monitoring Laboratory (EML) while residues and decontamination wastes are collected, characterized and sent to the appropriate waste management facilities for disposal.

According to Cheryl Kyle, CBARR program manager, the challenge of working with phosgene is its natural compound state: vapor. In order to successfully drill the munition, it must first be chilled to bring the agent to its liquid form. “X-ray data from the MARB assessment indicates where the bursters and agent are located inside of the munition shell. Once the munition is unpacked and prepped for drilling inside the glove boxes, it is moved inside an explosive containment chamber (ECC), where operators sitting in a

separate control room can remotely drill the munition using computer controls,” said Kyle. “The operating team does a fantastic job and is up to any challenge or task asked of them.”

Processing a munition at the MAPS facility takes about one full day to complete and two additional days for the EML to analyze and characterize a report for customers. The facility provides an alternative solution to open detonation, which requires a 5:1 explosive to agent payload ratio. Instead, MAPS is a significant improvement in protecting human health and the environment. In an area where chemical agents and industrial chemicals are managed, the MAPS facility is equipped with a ventilation system that establishes negative air pressure and that discharges air through carbon filter units. Near real-time air monitors provide additional workspace surveillance.

The MAPS facility is used on an intermittent basis to support ECBC’s national chem-bio defense mission. The last operation took place on Aug. 21, 2012, when CBARR successfully drilled and sampled a 75-millimeter munition that was transported from the Naval Air Engineering Station (NAES) Lakehurst in New Jersey. The EML performed sample analysis and characterized the liquid sample, which verified the munition as a smoke round. The effort supported a project that was funded by CMA to verify non-intrusive assessment data collected in the field.

For more information about ECBC, visit <http://www.ecbc.army.mil/>.

ECBC is the Army’s principal research and development center for chemical and biological defense technology, engineering and field operations. ECBC has achieved major technological advances for the warfighter and for our national defense, with a long and distinguished history of providing the Armed Forces with quality systems and outstanding customer service. ECBC is a U.S. Army Research, Development and Engineering Command laboratory located at the Edgewood Area of Aberdeen Proving Ground, Maryland. For more information about the Edgewood Chemical Biological Center, please visit our website at <http://www.ecbc.army.mil/> or call (410) 436-7118.

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