



# FACT SHEET

Special Assistant to the Under Secretary of Defense  
(Personnel and Readiness) for Gulf War Illnesses,  
Medical Readiness and Military Deployments

For more information,  
(703) 578-8500

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## Project Shipboard Hazard and Defense (SHAD)

### Eager Belle, Phase II

Project Shipboard Hazard and Defense (SHAD) was part of the joint service chemical and biological warfare test program conducted during the 1960s. Project SHAD encompassed tests designed to identify US warships' vulnerabilities to attacks with chemical or biological warfare agents and to develop procedures to respond to such attacks while maintaining a war-fighting capability.

The primary purpose of the Eager Belle, Phase II test was to study the downwind travel of biological aerosols. The primary test objectives were to relate biological cloud travel to predicted cloud travel based on prediction models for prevailing conditions; to obtain additional information on weapon system performance over the open sea under meteorological conditions encountered; and, to obtain information to assist in the design and execution of future trials. A secondary objective was to provide information on the performance of a particle-sized analyzer under environmental conditions.

*Bacillus subtilis* var. *niger* (often referred to as *Bacillus globigii* [BG]), a biological tracer, was released as a line source generated by Aero 14B spray tanks mounted on A-4 series jet attack aircraft. The ships which operated in Eager Belle, Phase II were the USS *George Eastman* (YAG-39), the USS *Carpenter* (DD-825), the USS *Navarro* (APA-215), and the USS *Tioga County* (LST-1185). The USS *Granville S. Hall* (YAG-40) and an EC-121 aircraft maintained operational control of testing.

Eager Belle, Phase II tests were conducted in an area of the Pacific Ocean approximately 175 miles west of Oahu, Hawaii within 100 miles radius of latitude 19° 30' N, 160° 00' W during the months of February, March, and June 1963.

The Department of Defense (DoD) is providing this information, at the request of the Department of Veterans Affairs (VA), to assist the VA in providing healthcare services to qualified veterans and to assist veterans in establishing service connection for disability claims. The Special Assistant to the Under Secretary of Defense (Personnel and Readiness) for Gulf War Illnesses, Medical Readiness and Military Deployments collected this information from multiple sources and requested that the military services declassify it to allow its public distribution. The VA accepts this information provided on location, dates, units and/or ships, and substances involved in this exercise, which the Special Assistant extracted from classified DoD records, and will provide it to individual veterans as necessary, but the VA cannot verify its accuracy.

<b>Test Name</b>	Eager Belle, Phase II (Test 63-1)
<b>Testing Organization</b>	US Army Deseret Test Center
<b>Test Dates</b>	February, March, June 1963
<b>Test Location</b>	Testing was conducted in the Pacific Ocean, west of Oahu, Hawaii.
<b>Test Operations</b>	To study the downwind travel of biological aerosols.
<b>Participating Services</b>	US Navy, Deseret Test Center personnel
<b>Units and Ships Involved</b>	USS <i>George Eastman</i> (YAG-39) USS <i>Granville S. Hall</i> (YAG-40) USS <i>Carpenter</i> (DD-825) USS <i>Navarro</i> (APA-215) USS <i>Tioga County</i> (LST-1185)
<b>Dissemination Procedures</b>	Biological tracer released as a line source generated by Aero 14B spray tanks mounted on A-4 series jet attack aircraft.
<b>Agents, Simulants, Tracers</b>	<i>Bacillus globigii</i> ( <i>Bacillus subtilis</i> var. <i>niger</i> [BG]).
<b>Ancillary Testing</b>	Particle-sized analyzer under development
<b>Decontamination</b>	Not identified
<b>Potential Health Risks Associated with Agents, Simulants, Tracers</b>	<u><i>Bacillus subtilis</i> var. <i>niger</i> (<i>Bacillus globigii</i> [BG])</u> The American Type Culture Center characterizes <i>Bacillus subtilis</i> var. <i>niger</i> as a BioSafety Level-1 (BSL-1) bacterium. The Centers for Disease Control and Prevention define BSL-1 as suitable for work involving well-characterized agents not known to consistently cause disease in healthy adult humans. (Sources: American Type Culture Collection data sheet, <a href="http://phage.atcc.org">http://phage.atcc.org</a> [as of January 11, 2002] and <i>Biosafety in Microbiological and Biomedical Laboratories</i> , U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health, 4 <sup>th</sup> ed., p. 17, April 1999, U.S. Government Printing Office, Washington)

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