

**US Army Corps
of Engineers
Baltimore District**

Fort Detrick Area B11 Removal Action Update

**Restoration Advisory Board Meeting
13 February 2002, 7:30 PM
Frederick, Maryland**



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Fort Detrick

Area B-11 Removal Project Status



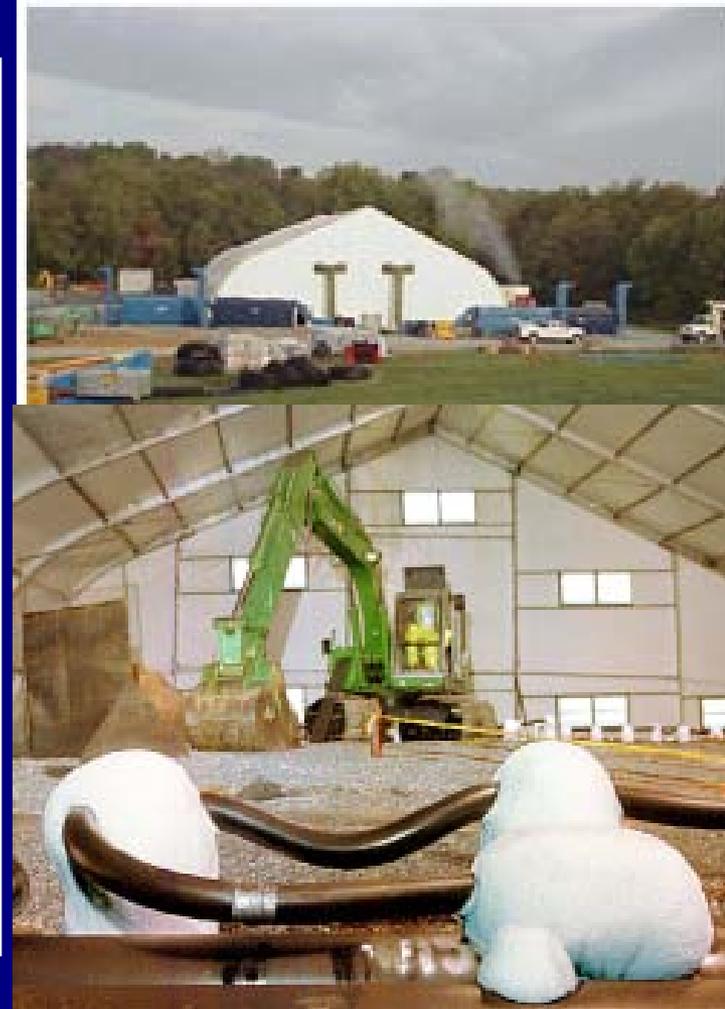


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Area B-11 Removal Project Status

- **Excavation of overburden material completed and clean soil moved to Area B Active Landfill - 12 Roll offs (174.7 tons)**
- **22 Roll offs (398.5 tons) of hazardous material transported to Texas for incineration and 7 Roll offs (126.8 tons) waiting for transportation**
- **4 Roll offs (53 tons) held after biological materials were found in this section of the pit.**
- **No lost time accidents or injuries (354 Days)**
- **Contaminant concentrations in the air within the containment structure were very low**
- **Air treatment system has operated as designed – no contaminants have been measured at system discharge**





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Area B-11 Removal

Project Status (Continued)

- **Excavation was discontinued after the holidays due to the finding of biological laboratory waste that consisted of:**
 - 1) four preserved rat specimens,**
 - 2) four vials of suspect biological material (white powder) , and**
 - 3) miscellaneous laboratory materials consistent with use in a biological laboratory.**





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Area B-11 Removal Project Status Evaluation of Bio Waste/Sampling Results

- All biological waste has been evaluated for Biological Warfare Programs organisms.
- Four Rats Specimens were preserved in a formaldehyde preservative.
- Four vials of suspected biological material have been evaluated by USAMRIID, ECBC, and Sentinel Inc.
 - One vial was cracked when found and determined to contain common soil bacteria;
 - One vial was found to positively contain *Streptovercillium Retriculum*;
 - The other two vials have not been fully identified. We are still in the process of getting final identification, if possible;
 - Results show that the materials are not organisms used in past Biological Warfare Programs;
 - **These materials are not known to cause disease in humans, animals, plants or the environment.**





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Area B-11 Removal

Sample Analysis Process

- **Vial Materials Sampling Process:**
 - First materials were analyzed using a culturing screen for 1-3 days;
 - Second the materials are inspected with a microscope and a gram stain analysis. **This process identifies the worst case scenario of Biological Warfare Organisms.**
 - If we cannot identify the materials we will then analyze it using a fatty acid methyl ester (FAME) system by MIDI and takes about 3 days;
 - Next these results are then compared to the database and identification methodology using the BIOLOG System.



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Area B-11 Removal Project Status

List of Potential Biological Materials

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Bacterial Materials:

- Acinetobacter baumannii (formerly A. calcoaceticus)
- Actinobacillus - all species
- Actinomycetaceae - all members
- Aeromonas hydrophila
- Arachnia propionica
- Arizona hinshawii - all serotypes
- Bacillus anthracis**
- Bacteroides - all species
- Bartonella - all species
- Bordetella - all species
- Borrelia recurrentis, vincenti
- Brucella -all species
- Campylobacter [Vibrio] foetus, jejuni
- Chlamydia psittaci, trachomatis
- Clostridium botulinum, chauvoei, haemolyticum, histolyticum, novyi, septicum, tetani
- Corynebacterium diphtheriae**, equi, haemolyticum, pseudotuberculosis, pyogenes, renale
- Edwardsiella tarda
- Erysipelothrix insidiosa

Escherichia coli - all enteropathogenic serotypes

Bacterial Materials (Continued):

- Francisella (Pasteurella) tularensis
- Haemophilus ducreyi, influenzae
- Klebsiella - all species and all serotypes
- Legionella - all species and all Legionella-like organisms
- Leptospira interrogans - all serotypes
- Listeria - all species
- Mimae polymorpha
- Moraxella - all species
- Mycobacterium - all species
- Mycoplasma - all species
- Neisseria gonorrhoea, meningitidis
- Nocardia asteroides
- Pasteurella -all species
- Plesiomonas shigelloides
- Proteus - all species
- Pseudomonas mallei, pseudomallei
- Salmonella** - all species and all serotypes
- Shigella - all species and all serotypes
- Sphaerophorus necrophorus
- Staphylococcus aureus**
- Streptobacillus moniliformis
- Streptococcus pneumoniae, pyogenes
- Treponema carereum, pallidum, pertenue



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List of Potential Biological Materials (Cont.)

- **Bacterial Materials (Continued):**

Vibrio cholerae, parahaemolyticus
Yersinia (Pasteurella) pestis, enterocolitica.

- **Fungal Materials**

Blastomyces dermatitidis
Coccidioides immitis
Cryptococcus neoformans
Histoplasma capsulatum
Paracoccidioides brasiliensis

- **Viral and Rickettsial Materials**

- Adenoviruses - all types
- Arboviruses - all types
- Coxiella burnetii
- Coxsackie A and B viruses - all types
- Creutzfeldt - Jacob agent
- Cytomegaloviruses
- Dengue viruses - all types
- Ebola viruses
- Echoviruses - all types
- Encephalomyocarditis virus

- **Viral and Rickettsial Materials
(Continued):**

- **Hemorrhagic fever** agents including, but not limited to, Crimean hemorrhagic fever (Congo), Junin, Machupo, and Korean hemorrhagic fever viruses
- Hepatitis associated materials
- **Hepatitis A, B, C, D, E viruses**
- **Herpesvirus** - all members
- **Infectious bronchitis-like virus**
- **Influenza viruses** - all types
- Kuru agent
- Lassa virus
- Lymphocytic choriomeningitis virus
- Marburg virus
- **Measles virus**
- **Mumps virus**
- Parainfluenza viruses - all types
- **Polioviruses** - all types
- **Poxviruses** - all members
- **Rabies virus** - all strains
- Reoviruses - all types



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List of Potential Biological Materials (Cont.)

- Respiratory syncytial virus
 - Rhinoviruses - all types
 - Rickettsia - all species
 - Rochalimaea quintana
 - Rotaviruses - all types
 - Rubella virus
 - Simian virus 40
 - Tick-borne encephalitis virus complex,
including Russian spring-summer
encephalitis,
 - Kyasanur forest disease, Omsk
hemorrhagic fever, and Central European
encephalitis viruses.
 - Vaccinia virus
 - Varicella virus
 - Variola major and Variola minor viruses
 - Vesicular stomatis virus - all types
 - Yellow fever virus



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Area B-11 Removal Project Status Proposed Actions

- Biological materials will be segregated if it is distinguishable and disposed of separately
- Soil and waste shredded will be treated to disinfect before transport to incinerator (equipment is being retooled for disinfection operation).
- Air treatment system will be reassessed and upgraded as needed to assure exhaust from the structure is safe.





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Area B-11 Removal Project Status Proposed Actions

