

# Blast Containment Design

**C**ontainment structures are required for explosives processing, testing and demilitarization. Southwest Research Institute (SwRI®) has the expertise in blast effects, field testing, numerical modeling, fabrication, and environmental monitoring needed to solve unique blast containment problems. The Engineering Dynamics Department staff can handle a containment problem from conceptual design through fabrication, proof testing, and installation.

## Capabilities

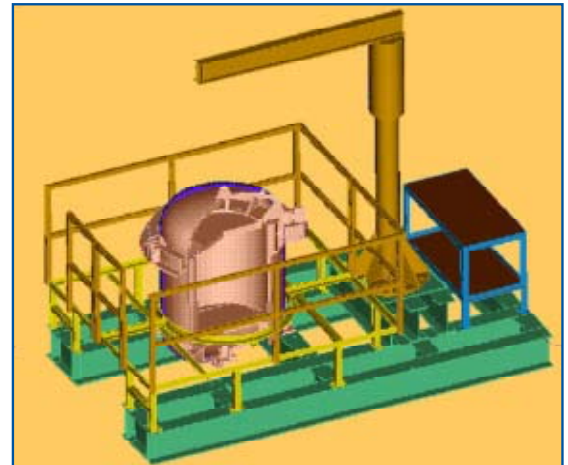
- Blast-resistant design
- Explosives testing
- High-speed data recording
- High-speed photography
- Design-build capability
- Dynamic finite element analysis (FEA)
- Hydrocode analysis
- Heavy structural fabrication

## Experience

- Design, fabrication and testing of portable demilitarization container
- Design, fabrication and testing of 22-lb high explosives (HE) test chamber
- Chamber life extension studies
- Containment design for melt-pour HE production facilities
- Development of TOW missile shields for Bradley fighting vehicle

## Facilities

- Ballistics and explosives test ranges
- Remote test sites
- Testing up to 1000 lbs HE
- Fabrication and machine shop facilities



D005130

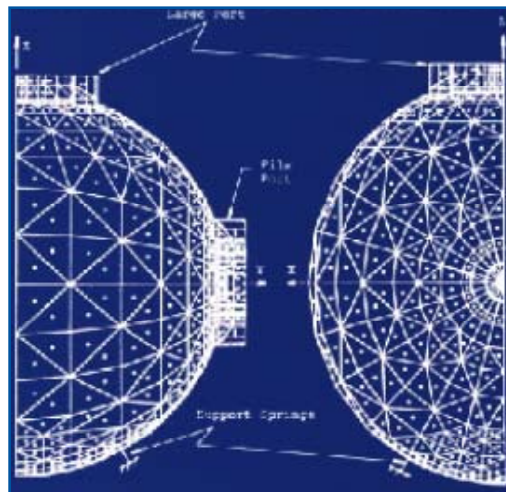
*CAD model of portable blast chamber for munitions disposal*



*Los Alamos National Laboratory (LANL) blast chamber*



D004933



D005012

*FEA grid of LANL spherical test vessel*

## KEYWORDS

High Explosives

Containment Design

Blast Resistance

Hazards Evaluation

Ballistics

Missile Shields

Finite Element Analysis

Hydrocodes

Life Extension Study

Fabrication

Proof Testing

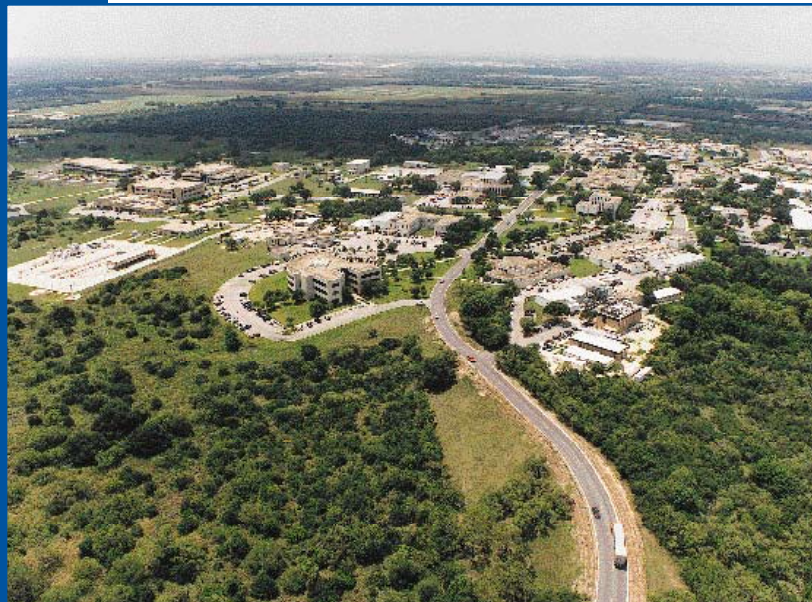
Field Testing

Homeland Security

*The SwRI Engineering Dynamics Department provides solutions for blast containment problems including blast-resistant design, fabrication, and verification testing. SwRI engineers also address environmental concerns related to explosions such as noise abatement and pollution control.*



D004918



*Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,300 employees who perform contract work for industry and government clients.*

**We welcome  
your inquiries.**

**For additional  
information,  
please contact:**

P. A. Cox  
Staff Engineer  
(210) 522-2315  
pcox@swri.org

Scott A. Mullin  
Manager, Ballistics and Explosives Engineering  
(210) 522-2340  
smullin@swri.org

Engineering Dynamics Department  
Mechanical and Materials Engineering Division  
Southwest Research Institute  
6220 Culebra Road • P.O. Drawer 28510  
San Antonio, Texas 78228-0510

Southwest Research Institute Website: [www.swri.org](http://www.swri.org)  
Engineering Dynamics Department Website: [www.engdyn.swri.org](http://www.engdyn.swri.org)