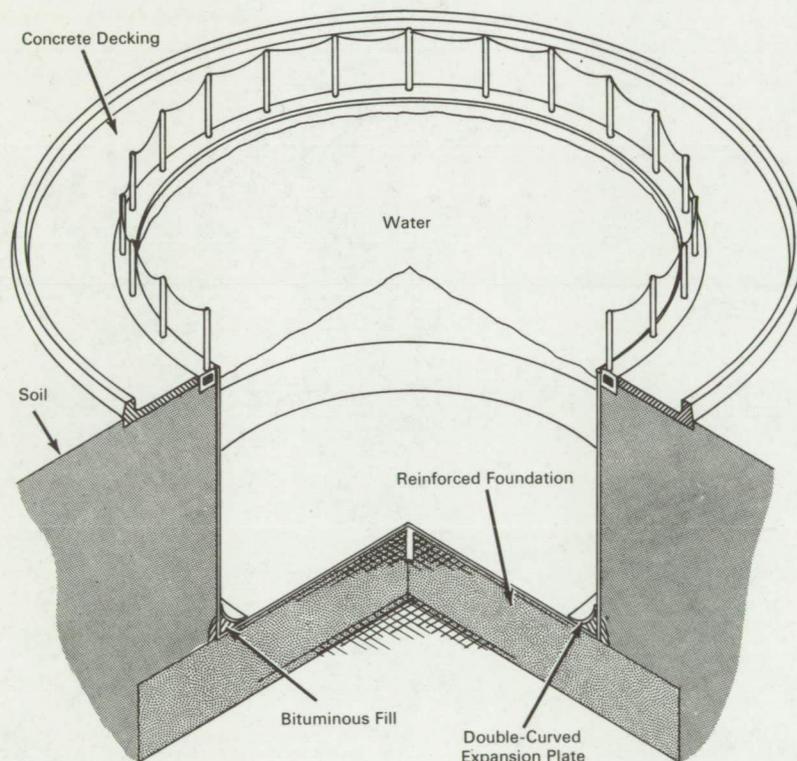


NASA TECH BRIEF



NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

High Energy Forming Facility



The problem:

To design and construct a watertight, high-explosive forming facility 25 feet in diameter, 15 feet deep and capable of withstanding repeated explosions of 10 pounds of TNT equivalent.

The solution:

A cylindrical shell of high-strength steel fabricated according to statically determined calculations to allow various structural elements to deform or move elastically and independently while retaining structural integrity. The design is based on shock-wave

energy absorption with the shell pulsating in hoop tension and rebound. The forming vessel remains watertight as a result of a bituminous seal located between a reinforced concrete footing and the steel shell. This seal is retained by a special double-curvature, pressure-spring cove plate connected to the floor plate (footing) at one edge only.

Notes:

1. The explosive forming facility permits drawing or forming exceptionally large metal sections as well as relatively small, extra-thick sections to precision tolerances.

(continued overleaf)

2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B67-10588

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: B. Ciurlionis
of North American Aviation, Inc.
under contract to
Marshall Space Flight Center
(MFS-14026)