
The objective of this study was to develop a method to determine shock wave propagation into water caused by the explosive removal of offshore structures. The objective was accomplished by performing numerical simulations of various explosive, pile, clay, and marine environments and determining the amount of energy coupled to the water. From these results, a model was developed to predict the explosive efficiency factors for several scenarios. Finally, the UnderWater Calculator spreadsheet was developed to predict peak pressure, acoustic impulse, and energy flux density for both the free water and within piling detonations. The study describes the underwater shock wave/sound propagation model's development, design, and results.

This study is available only in compact disc format. The discs are available from the Minerals Management Service, Gulf of Mexico OCS Region, at a charge of $15.00 by referencing OCS Study MMS 2003-059. You will be able to obtain this study also from the National Technical Information Service in the near future. Here are the addresses. You may also inspect copies at selected Federal Depository Libraries.

Minerals Management Service  
Gulf of Mexico OCS Region  
Public Information Office (MS 5034)  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana  70123-2394  
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MMS is the Federal agency in the U.S. Department of the Interior that manages the nation's oil, natural gas, and other mineral resources on the outer continental shelf in Federal offshore waters. The agency also collects, accounts for, and disburses mineral revenues from Federal and American Indian leases. These revenues totaled over $6 billion in 2002 and nearly $127 billion since the agency was created in 1982. Annually, nearly $1 billion from those revenues go into the Land and Water Conservation Fund for the acquisition and development of state and Federal park and recreation lands.

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