

# **Efficiencies in 3D Design - Implementation and Operations**

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## **ABSTRACT**

Design of 3D seismic models has received much attention over the years, and yet relatively little has been presented regarding the optimization of these models for implementation by modern acquisition crews.

Our primary goal is to provide designs of sufficient technical merit to image the intended targets. However, along this path we are presented with many choices that give approximately equal imaging characteristics but bear great influence on the ultimate cost of the project.

Using the concept of cost densities, we offer some guidelines to project optimization.

The cost of acquisition of a 3D project can be greatly influenced by the arrangement of lines. We present demonstrations of optimizing layout to attain the most efficient patch rolling while minimizing utilization of recording equipment. We show how these considerations may be sensitive to survey shape and source type.

Today we are seeing the implementation of much larger 3D programs than ever before. We are often forced to "Zipper" our programs in order to record them with a practical amount of field equipment. We discuss several methods and considerations required to optimize this planning.

These aspects of project planning can result in cost variations from tens of thousands of dollars in smaller projects to millions of dollars in very large 3D's.