

SIMULTANEOUS BLASTING OF MULTIPLE OVERBURDEN SEAMS IN SURFACE COAL MINING

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Abstract

This paper will be presented jointly by El Dorado Chemical Co. and Arch of Illinois. It will deal with the simultaneous blasting of multiple overburden seams in surface coal mining.

With the development of a new pit in Southern Illinois, production personnel with Arch were faced with serious equipment cycling problems. The solution to the problem was the development of a procedure that reduced drill movements on the highwall.

This procedure called for radical rethinking of the drilling and blasting program which would now include drilling through the upper most coal seam to facilitate blasting of two overburden formations in a single bore hole. This presentation will explain how the mine plan was altered as a result of this unique application of drilling and blasting technique.

We will discuss some background material pertaining to Geography, Overburden profile, Equipment descriptions and Production Capacities. This will lead into development of the procedures used and their design. We will explain what steps were taken to protect the upper most coal seam while blasting the material below it. Application of the procedure and the results gained will be discussed along with design changes used in vibration control.