

大発破に関する研究(Ⅰ)

—発破計画および爆薬について—

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INVESTIGATION ON QUARRY BLAST (I)

BLASTING PLAN AND EXPLOSIVES

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Synopsis

In order to discuss about the method and the explosives for the coyote blasting and also the method for verifying whether whole charges have been detonated or not, a specially designed coyote blasting was carried out at Maeshima, Ushimadocho Okayama prefecture, on 18th April 1962.

Rocks around test site is a kind of granite. In this blasting, 11 chambers were formed within rocks and these were filled up with proper explosives. Total weight of explosives filled up in these chambers were about 6,500 kg, and these explosives were fired by some delay detonators. The time from the instant of detonation of the initial chamber to that of the last was about 4,000 ms.

Some high speed moving camera and some pick-up which were used for observing the vibration of rocks caused by these explosions were used for verifying the detonation of each explosive.

It was recognized on this coyote blasting that the breakage of rocks by the delay blasting was better than that by the instantaneous blasting, therefore, the delay blasting was useful in the coyote blasting as same as the general blasting which was performed by the explosives loaded in some drill holes, and also the verification of detonation was more easily on the delay blasting, therefore, adopting the delay blasting method to the coyote blasting was available on the stand point of safety in operations.