

トンネル湧水の特性と問題点*

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Characters and Some Problems on the Tunnel Water

..... Pre-estimating Methods for Amounts of the Tunnel Water

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1. Introduction

In this paper a synthetic consideration for the tunnel water is mentioned from the viewpoint to establish the Pre-estimation method for its amount. The tunnel water is nothing but ground water flowing. Hydrology, hydraulics, soil mechanics and geology (hydrogeology) have been concerned with the study of ground water flow, but in this paper a conception of the ground water is formed mainly from considerations of water-taking area.

2. Constancy of Tunnel Water and Its Depression Curve

Amounts of tunnel water are extremely large in general at an early stage of excavation, but the discharge decreases and finally reaches the equilibrium. Such tendency is remarkable in the tunnel water. The tunnel water, once it reaches the state of constant flow, apparently undergoes no influence of meteorologic and seasonal conditions, keeping a constant discharge for a long time. Table 1 shows a comparison between the volumes of tunnel water measured recently as well as shortly after completion of excavation, indicating the constancy of tunnel water.

3. Volume of Water at Early Stage (Top-Water)

* 本論文は文献 1)の一部である。

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