

## **DISINTEGRATION OF ROAD AGGREGATES ALONG PARTS OF THE GURUN-ALOR SETAR AND IPOH-CHANGKAT JERING HIGHWAYS**

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The Gurun-Alor Setar and Ipoh-Changkat Jering Highways form part of the proposed North-South Highway stretching from Bukit Kayu Hitam in the north to Johor Baru in the south. Soon after the completion of these two stretches of the Highway, brownish streaks were seen on the road surfaces.

X-ray diffraction studies showed that these brownish streaks contained pyrites with some softer secondary minerals such as goethite, hematite, melanterite, jarosite, sulphur, mica, kaolinite and illite.

Petrographic studies carried out on quartzite and hornfels from the Gurun Quarry and on granite from an abandoned quarry near Padang Rengas which supplied aggregates for the construction of the Gurun-Alor Setar and the northwestern portion of the Ipoh-Changkat Jering Highways respectively showed that pyrites are present within the interstices of the rocks.

Oxidation of the pyrites produces iron sulphates and sulphuric acid which react with other minerals in the rock aggregates to form soft secondary minerals with a brownish stain and a large volume increase. When vehicles run over these stained pounced-up spots, the soft secondary minerals break up, causing the aggregates to disintegrate, leaving behind small cavities.