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Geological survey for the localization of rocks proper for the restoration of the Grave Circle A in the acropolis of Mycenae, Greece

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The Grave Circle A, excavated in the 1876 by Schliemann, is among the most important prehistoric monuments of Greece, very well known for the rich findings and the gold masks of the royal burials dated to the 16^{th} century B.C. Later, in the 13^{th} century B.C., the graves were enclosed by upright slabs of stone, forming two concentric circles. The target of the survey was to localize similar rocks, proper for the restoration of these concentric circles.

The slabs of the monument consist by 84% of bioclastic limestone; they are frequently rich in sizable fossils indicating a littoral marine environment of sedimentation. The rest participating rock types are sandstone, occasionally fossiliferous, fine conglomerate and oolithic limestone. Palaeontological and lithofacial criteria were suggestive of a Pleistocene age; taking into account the geological setting of the broader area, the search for similar rocks was focused on the Tyrrhenian formations, starting from the outcrops in Nafplion and shifting successively to Corinth, Loutraki and Perachora areas. The requirement of the restoration team for compact slabs 1 by 1.5 by 0.15 meters large was a serious restriction that excluded many of the already mapped geological outcrops. Proper formations with sufficient reserves were localized in the area of Perachora, near the Vouliagmeni Lake. The Tyrrhenian outcrops in Perachora occur in terraces which are tectonically uplifted up to an elevation of 160 meters.

The prehistoric quarries used for the excavation of the slabs of the Grave Circle A were also found in Perachora, very close to Mycenaean chamber tombs. The excavated blocks were surrounded by trenches, 12 centimeters wide, partly opened by rock abrasion through the use of volcanic rocks. A similar grinder of volcanic rock

was also found in the monument, apparently used for smoothing the slabs.