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Silica diagenesis in Eocene carbonates of the Okçular Formation, Turkey: inferences from field observations and petrography – reply

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In his discussion of my paper, Henchiri (2026) has written four questions, with four corresponding subheadings. I discuss these in turn below.

WIDESPREAD CHERT FORMATION DURING THE EOCENE

In this section, Henchiri (2026) discusses the reasons for the prevalence of chert during the Eocene Epoch; however, as my paper describes a specific research study, repeating this readily available general information is unnecessary. Henchiri (2026), too, is mistaken in thinking that the volcano-hydrothermal model is applicable here. In my earlier paper (Yeşilot Kaplan, 2023) the relationship between rare earth element (REE) patterns and chert were discussed, these indicating that the origin of the cherts is not volcano-hydrothermal.

Henchiri (2026) attributes the the volcanism to tectonic activity in North-Central Anatolia. However, my study area is located in the southernmost part of Anatolia, far removed from the volcanic region Henchiri proposes.

ORIGINS OF BEDDED AND NODULAR CHERTS

In this section, the volcano-hydrothermal model is described much as in a review article. This information is redundant, though, as it does not explain the silicification model proposed in Yeşilot Kaplan (2025). Moreover, the introduction to this latter article already states that volcanism causes silicification and effectively discusses other silicification models.

NODULAR CHERTS

In this section, the author discusses chertification associated with clayey layers; however, the cherts in the Okçular Formation are associated with limestones. This section, therefore, is irrelevant to the cherts discussed in Yeşilot Kaplan (2025). Furthermore, while Henchiri (2026) proposes that Opal-CT precipitates when the metallic cation ratio is high, the final sentence suggests that it precipitates when the ratio drops.

SILICA FORMS RELEVANT TO SILICA DIAGENESIS

In this section, although the author notes that the identification of forms of silica via XRD analysis is inconclusive, he nevertheless recommends this analysis for cherts. Since the aim of Yeşilot Kaplan (2025) was to present a silicification model based on microstructural characteristics, XRD analysis was not needed. Discussion of an analysis that has not been performed has little relevance.

POROSITY AND DISPLACIVE VS REPLACIVE GROWTH OF SECONDARY SILICA

There is no information to add to Yeşilot Kaplan (2025) in this section. Details regarding the displacive model are already included in the first paragraph of the discussion section in Yeşilot Kaplan (2025).

In conclusion, the discussion by Henchiri (2026) offers no relevant additional information to Yeşilot Kaplan (2025).

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