Lower Cretaceous Calcareous Nannofossils
From the Great Valley Sequence of Northern California:
A Preliminary Survey

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with 4 figures

Abstract. Diverse calcareous nannofossil assemblages occur in seven samples collected from an apparently continuous 4000 m section of homoclinally dipping strata of Early Cretaceous age in the Great Valley of northern California. Two additional samples from younger strata at different localities also contain nannofossils. The lithostratigraphic units comprising the section are (in ascending order) the "Knoxville Formation", an informal name applied to the Jurassic part of the Great Valley sequence, the Paskenta Formation and its unnamed equivalents of Early Cretaceous age, and the Budden Canyon Formation of Aptian or Albian Age. This section was previously studied with respect to ammonites, pelecypods of the genus Buchia, and benthic Foraminifera.

Preliminary nannofossil results suggest that the unnamed Early Cretaceous beds at McCarty Creek, dated as Valanginian to Hauterivian or Aptian by ammonites and Buchia, can be assigned similar ages by nannofossils if one takes into account the different stratigraphic levels sampled for each group. Similarly, Aptian or Albian age assignments of the Budden Canyon Formation are in agreement for ammonites and nannofossils. As nannofossil sampling of the California section becomes more complete, it may become one of the best reference sections available for Lower Cretaceous correlations.

Introduction

The Great Valley Sequence of northern California is an eastwardly dipping homocline of moderately to severely faulted but unmetamorphosed, sparsely to moderately fossiliferous, quartzose sandstones and siltstones with minor amounts of carbonate. It approaches 15,000 m in thickness and ranges in age from Tithonian to latest Cretaceous. It is well exposed on the western flank of the Sacramento Valley of Northern California. It is severely faulted in the Paskenta Fault Zone (Fig. 1) but becomes progressively less faulted to the north. Relatively un faulted exposures occur along McCarty Creek (Fig. 1). Lithostratigraphic subdivision of this thick and lithologically mono-

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