The Big Blue Formation conformably overlies the Temblor Formation along the northeast flank of the Coalinga anticline, but is progressively truncated beneath the late Miocene Santa Margarita Formation. The near continuous exposures of yellow, orange, brown, red, and blue sediments are almost exclusively composed of detrital serpentinite. Several authors (Eckel and Myers, 1946; Cowan and Mansfield, 1970) noted the proximity of the thickest Big Blue exposures to the large (19 x 6 km) serpentine body atop San Joaquin Ridge, near the mining town of New Idria, and suggested a relationship between the two. This inferred, but poorly understood relationship between the tectonically emplaced serpentinite mass at New Idria, exposed up-plunge from the San Joaquin-Coalinga anticline and the sedimentary serpentinite, was significantly clarified by Dickinson and Casey (1976). They recognized the non-detrital character of much of the Big Blue Formation and distinguished a chaotic facies that represents protrusive serpentinite flows that resulted from massive protrusive emplacement of serpentinite, associated with a major episode of diapiric movement. The major uplift occurred in late middle Miocene (Luisian) time, depositing between 5 and 10 cubic miles of serpentinite debris (Eckel and Myers, 1946). Dickinson (1966) likewise called upon extrusive sheets of serpentinite to explain similar deposits to the south on Table Mountain, west of Reef Ridge.

Figure 8. Structure map of Coalinga oil field, drawn on the top of the Kreyenhagen Formation, showing two largely undrilled areas, ringed by wells producing from the lower Temblor Formation. Serpentinite deposited on the Kreyenhagen is onlapped by the producing interval of the Temblor.

Figure 9. Correlation of adjacent wireline electric logs from wells in the East Coalinga Extension Oil Field showing onlap of basal Temblor Formation onto a previously deposited serpentinite mass. The interval is described from cores as a foliate breccia, resulting in a much lower amplitude log response that that of detrital facies of the Big Blue sedimentary serpentinites.