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Bond, D.P.G. and Wignall, P.B. (2005) Evidence for Late Devonian (Kellwasser) anoxic events in the Great Basin, western United States. In: Over, J., Morrow, J. and Wignall, P.B., (eds.) *Development in Palaeontology and Stratigraphy. Understanding Late Devonian and Permian-Triassic Biotic and Climatic Events*, 20 (Chapte). Elsevier , pp. 225-261. ISBN 0444521275

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Figure 1: Locality map of study sections in the western United States, showing principal towns and highways. CK = Coyote Knolls; DG = Devils Gate; NAR = Northern Antelope Range; TM = Tempiute Mountain; WRC = Whiterock Canyon; WS = Warm Springs.

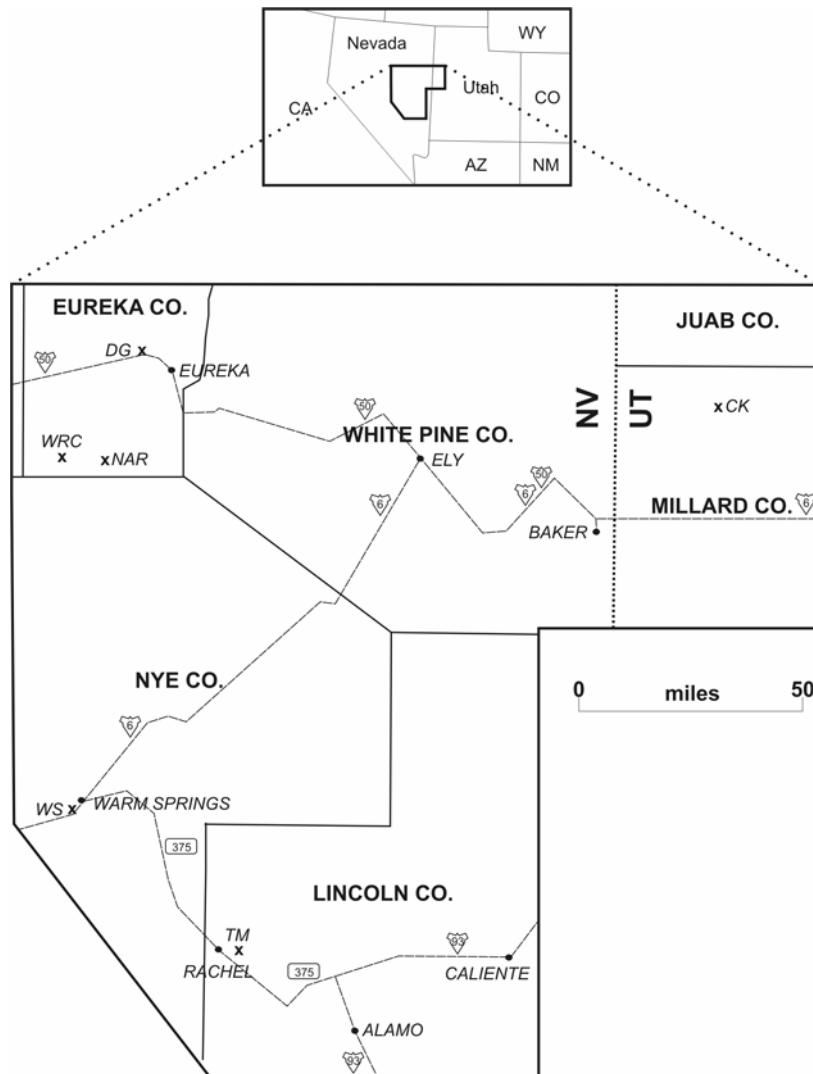


Figure 2: Lithofacies and palaeogeography of the Great Basin during the Frasnian-Famennian interval showing location of sections studied in this chapter. Modified from Sandberg et al. (1989) and Morrow (2000). Note movement on the Roberts Mountains thrust (hachured) has not been fully restored, thus foreshortening the shelf – basin transition in some areas. Section abbreviations as in Fig. 1.

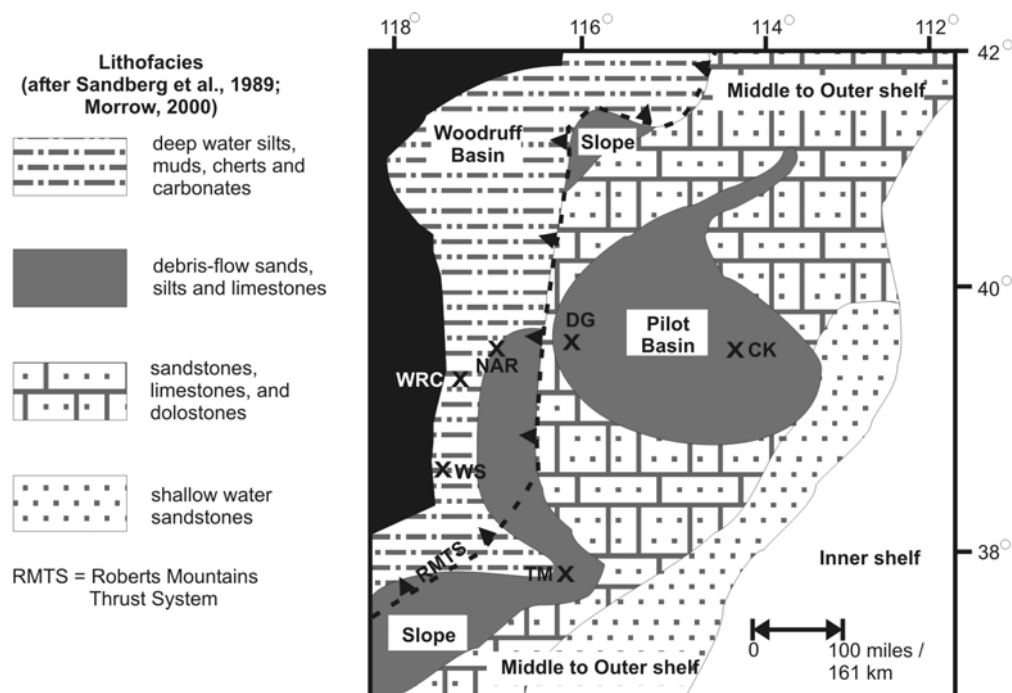


Figure 3: Correlation of study sections (abbreviations as in Fig. 1), showing the development of thinner, basinal sections in the western outcrops, and thicker, slope sections to the east.

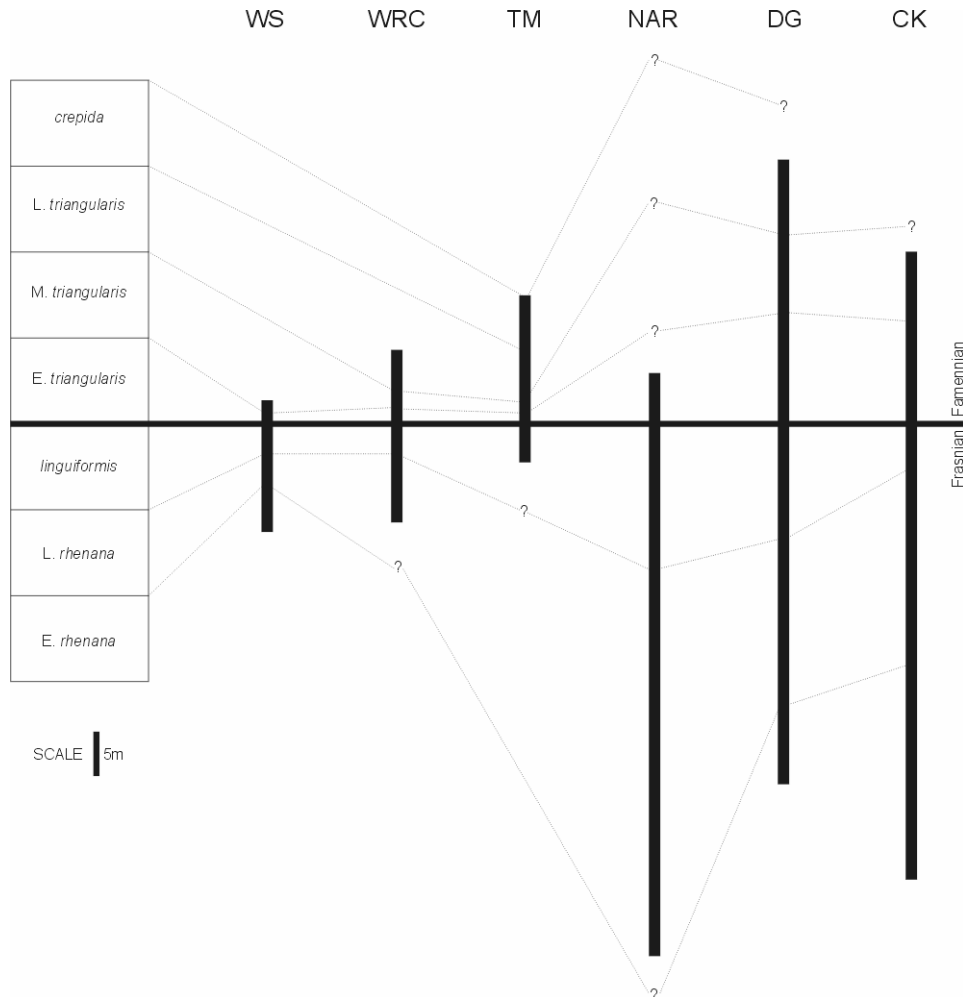


Figure 4: SEM photograph of pyrite framboids from the Devils Gate section (bed 4). Note that the framboid on the right of the picture exhibits an oxidised rim but still retains the framboid morphology.

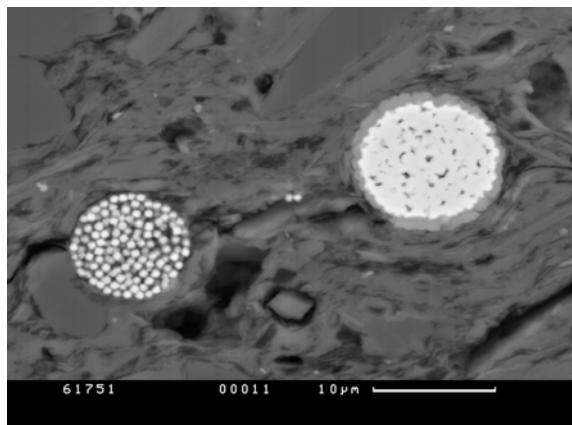


Figure 5: Log of Coyote Knolls section, including pyrite framboid "box and whisker" data (box shows 25th, 50th, and 75th percentile, with horizontal line representing minimum and maximum framboid diameter). Note that grade (e.g. clay) refers only to grain size, and not lithology, since this is a mixed clastic / and carbonate sequence. Conodont zonation based on Sandberg et al. (1997).

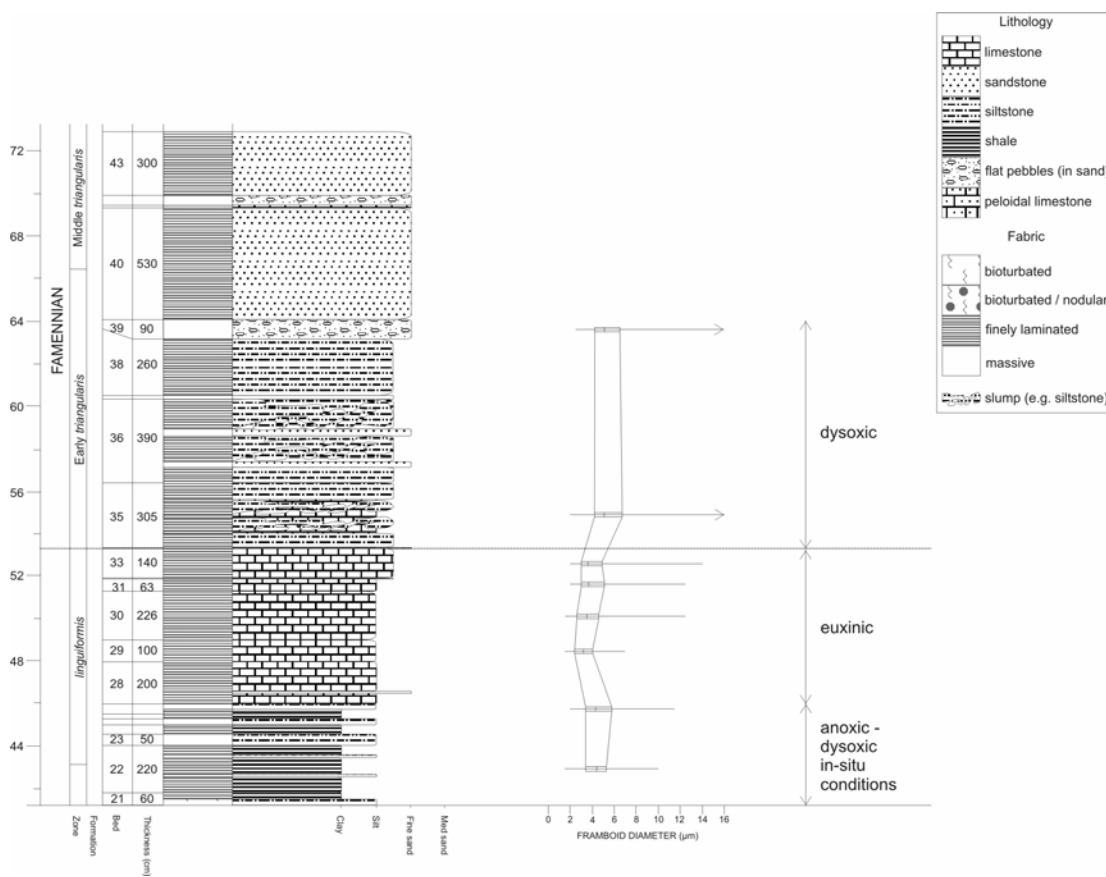


Figure 5: Log of Coyote Knolls section, including pyrite framboid "box and whisker" data (box shows 25th, 50th, and 75th percentile, with horizontal line representing minimum and maximum framboid diameter). Note that grade (e.g. clay) refers only to grain size, and not lithology, since this is a mixed clastic / and carbonate sequence. Conodont zonation based on Sandberg et al. (1997).

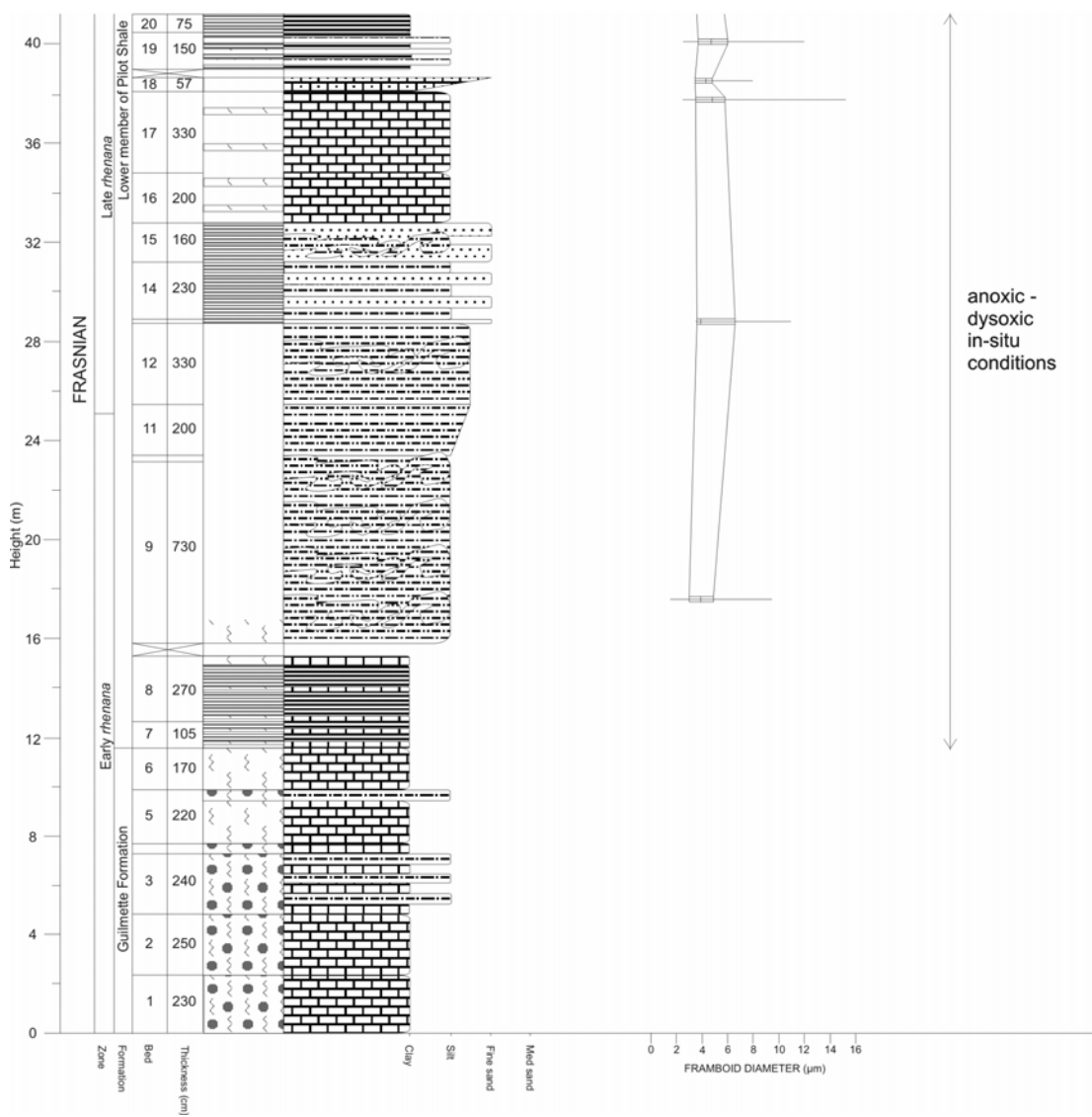


Figure 6: Mean framboid diameter (microns) vs. standard deviation plot for pyrite framboids at Coyote Knolls. Note that bed 29 (*linguiformis* Zone) plots as the most intensely anoxic bed, and that by beds 35 and 39 (Famennian), the framboid distribution is characteristic of dysoxic conditions.

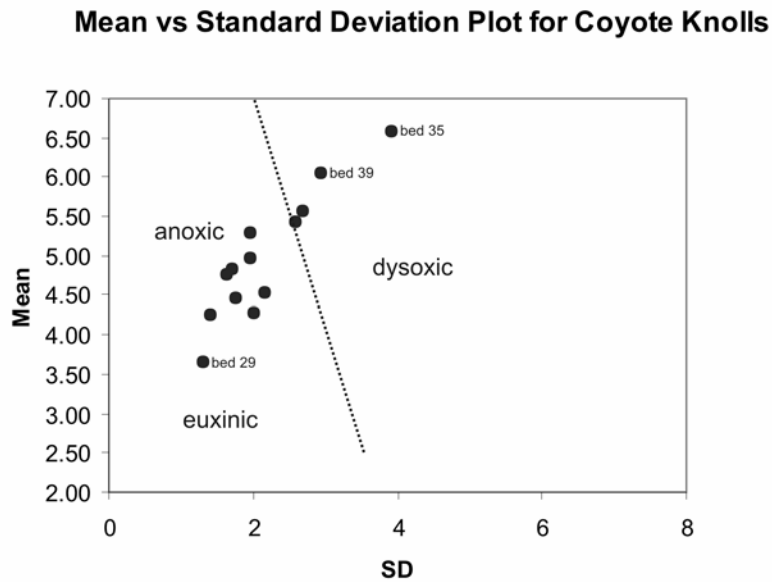


Figure 7: Log of Devils Gate section including pyrite framboid "box and whisker" data. Sample numbers from Sandberg et al. (1988) are given in brackets in bed column, where appropriate. Conodont zonation based on Sandberg et al. (1988).

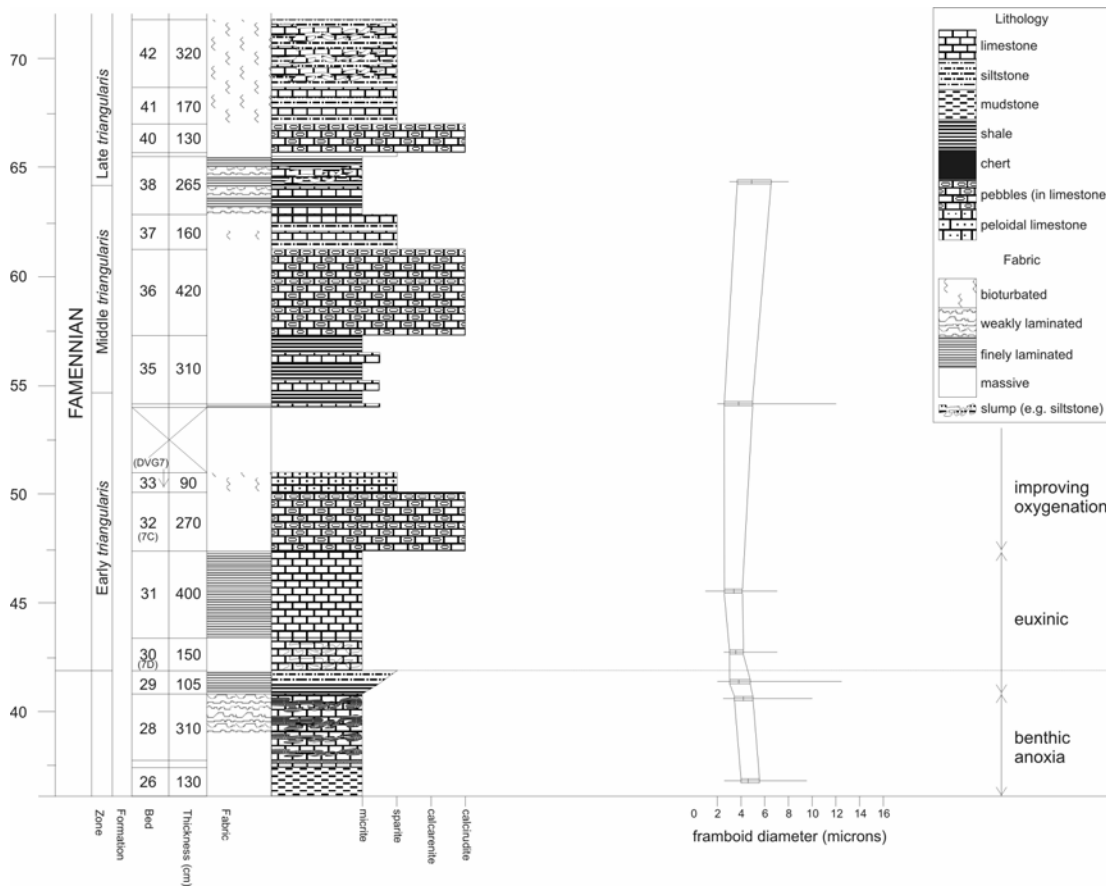


Figure 8: Mean framboid diameter (microns) vs. standard deviation plot for pyrite framboids at Devils Gate. Note that the sequence as a whole plots within the anoxic / euxinic fields, with bed 7 (basal Late *rhenana* Zone) and beds 29 to 31 (F-F boundary beds) plotting as the most intensely anoxic beds.

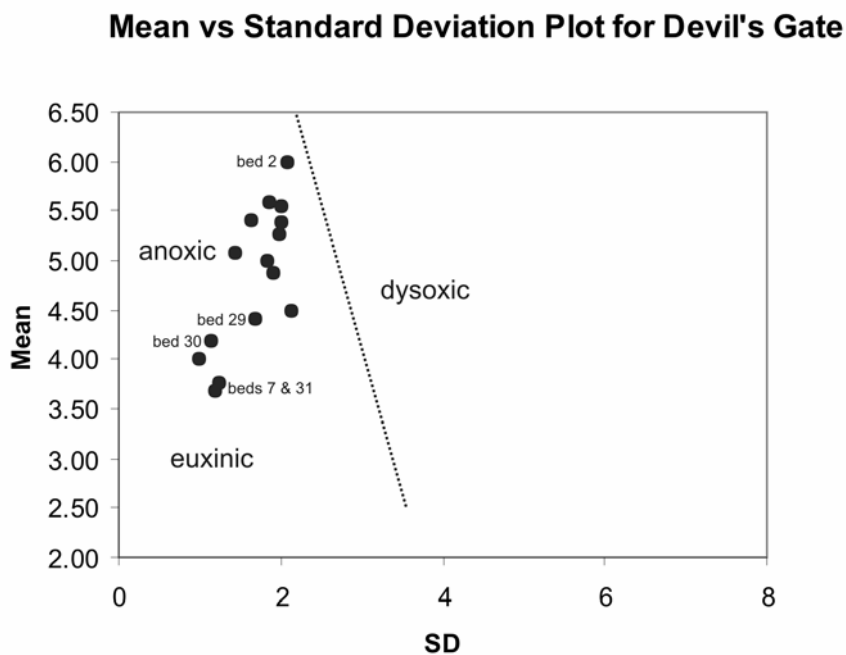


Figure 10: Photomicrograph of Northern Antelope Range: a) Lower part of bed 4 (Late *rhenana* Zone), finely laminated, pyritic calcareous shale of the Woodruff Formation; b) Bed 8 (Late *rhenana* Zone), well-rounded, peloidal calcarenite, consisting of approximately 60% peloids and 40% quartz grains; c) Bed 20 (*linguiformis* Zone), fine-grained calcarenite with notably reduced clastic content; and d) Lower Famennian bed 23, peloidal microsparite.

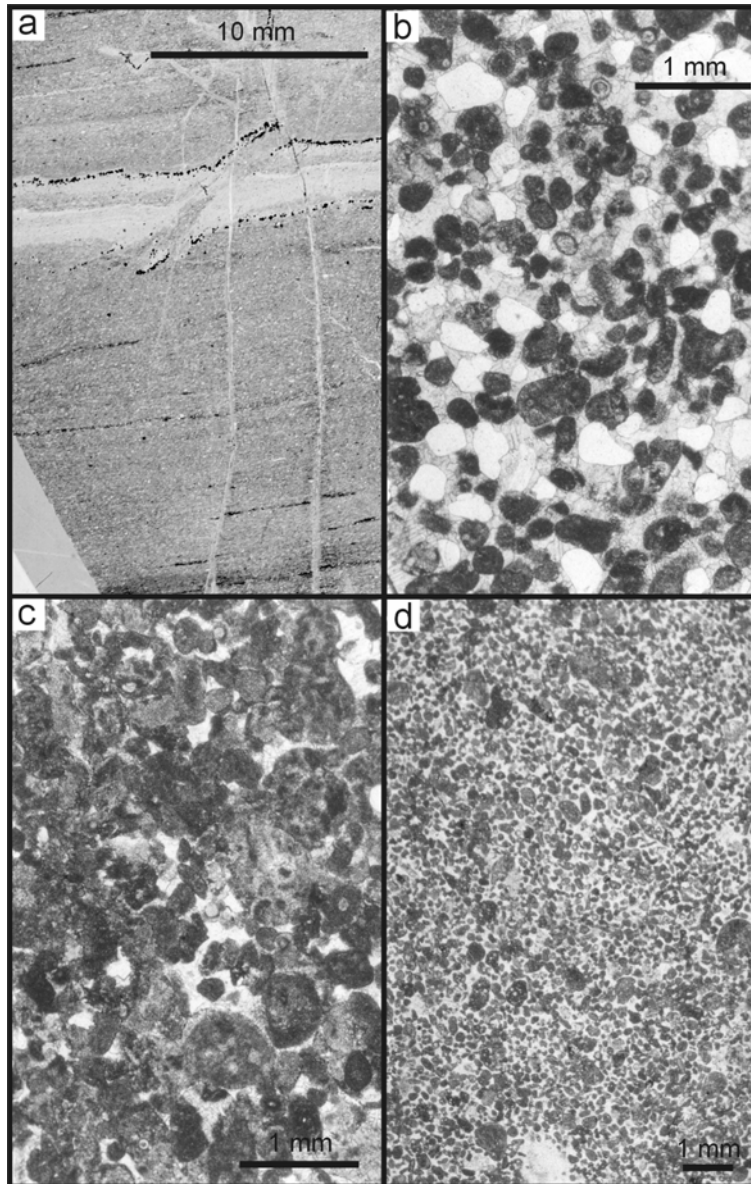


Figure 11: Log of Tempiute Mountain section including pyrite framboid "box and whisker" data. Note that grade (e.g. clay) refers only to grain size, and not lithology, since this is a mixed clastic / and carbonate sequence. Conodont zonation based on Morrow (2000).

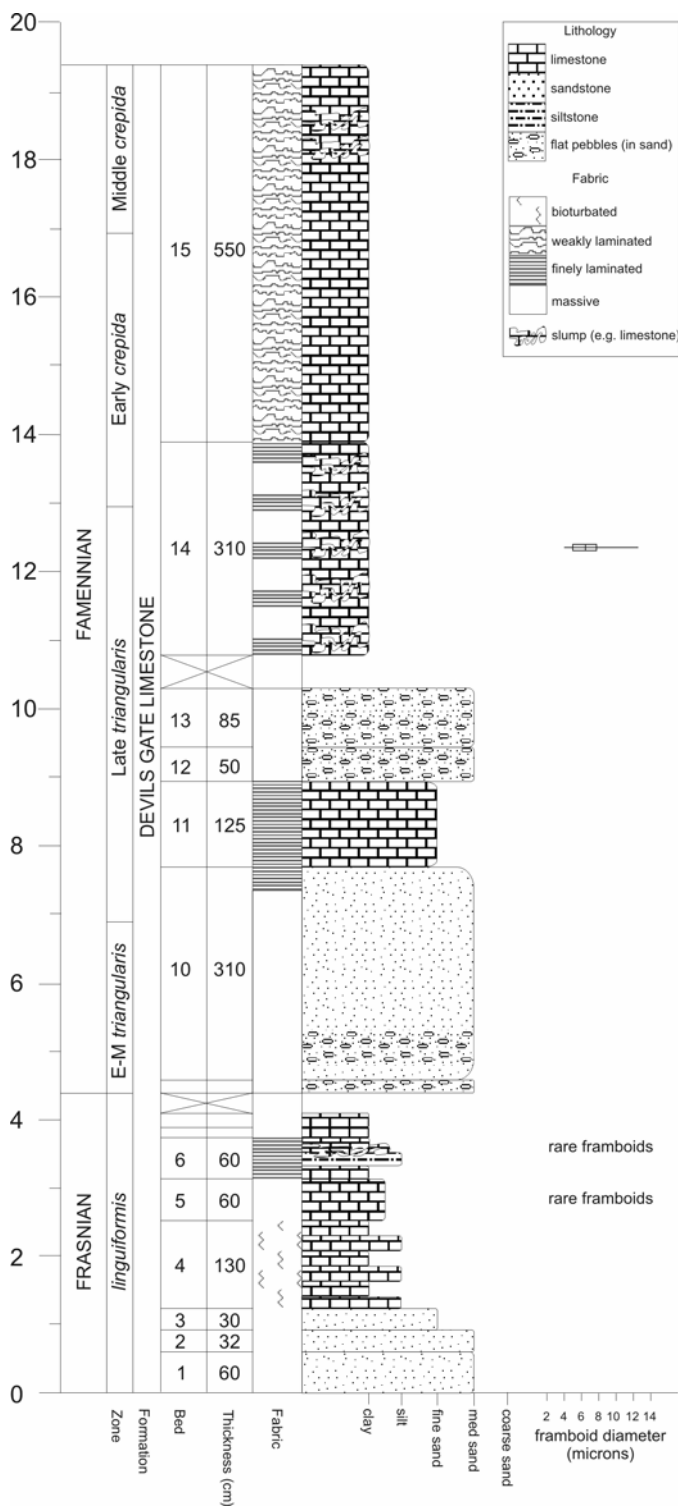


Figure 12: Log of Whiterock Canyon section, including pyrite framboid "box and whisker" data. Conodont zonation based on Morrow (2000).

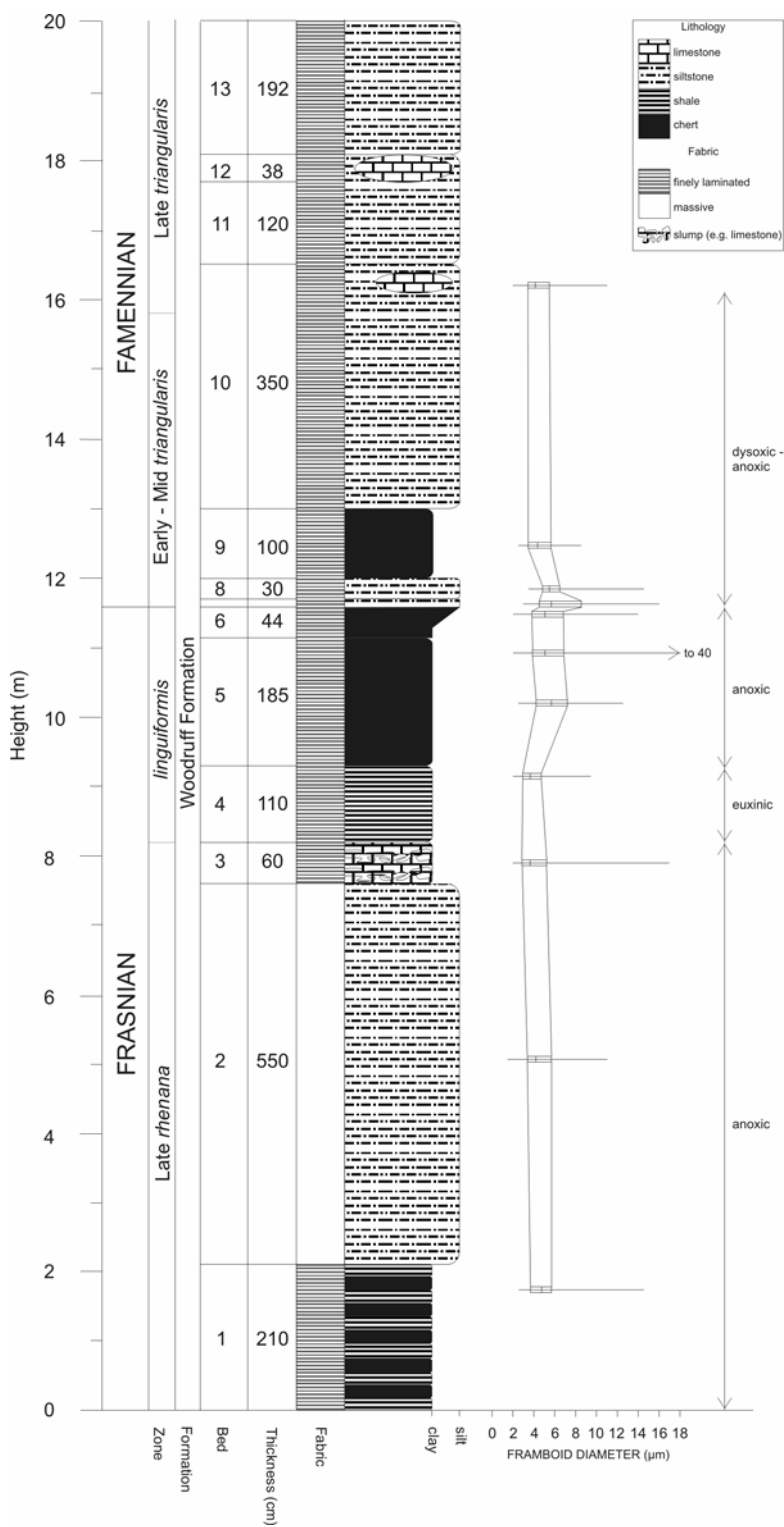


Figure 13: Mean framboid diameter (microns) vs. standard deviation plot for pyrite framboids at Whiterock Canyon. Note that most beds plot within the anoxic field, with beds 5 (*linguiformis* Zone) and 7 (Early *triangularis* Zone) plotting in the dysoxic field.

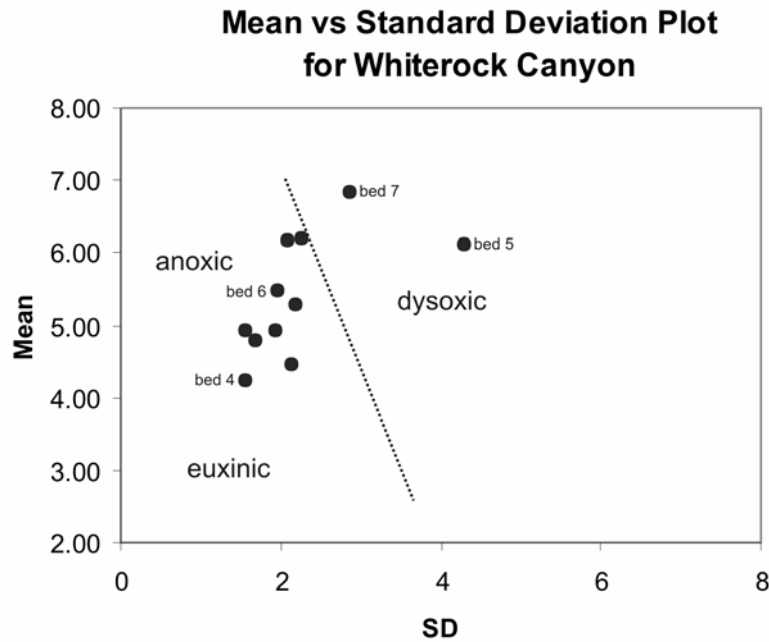


Figure 14: Log of Warm Springs section including pyrite framboid "box and whisker" data. Conodont zonation based on Sandberg et al. (1997).

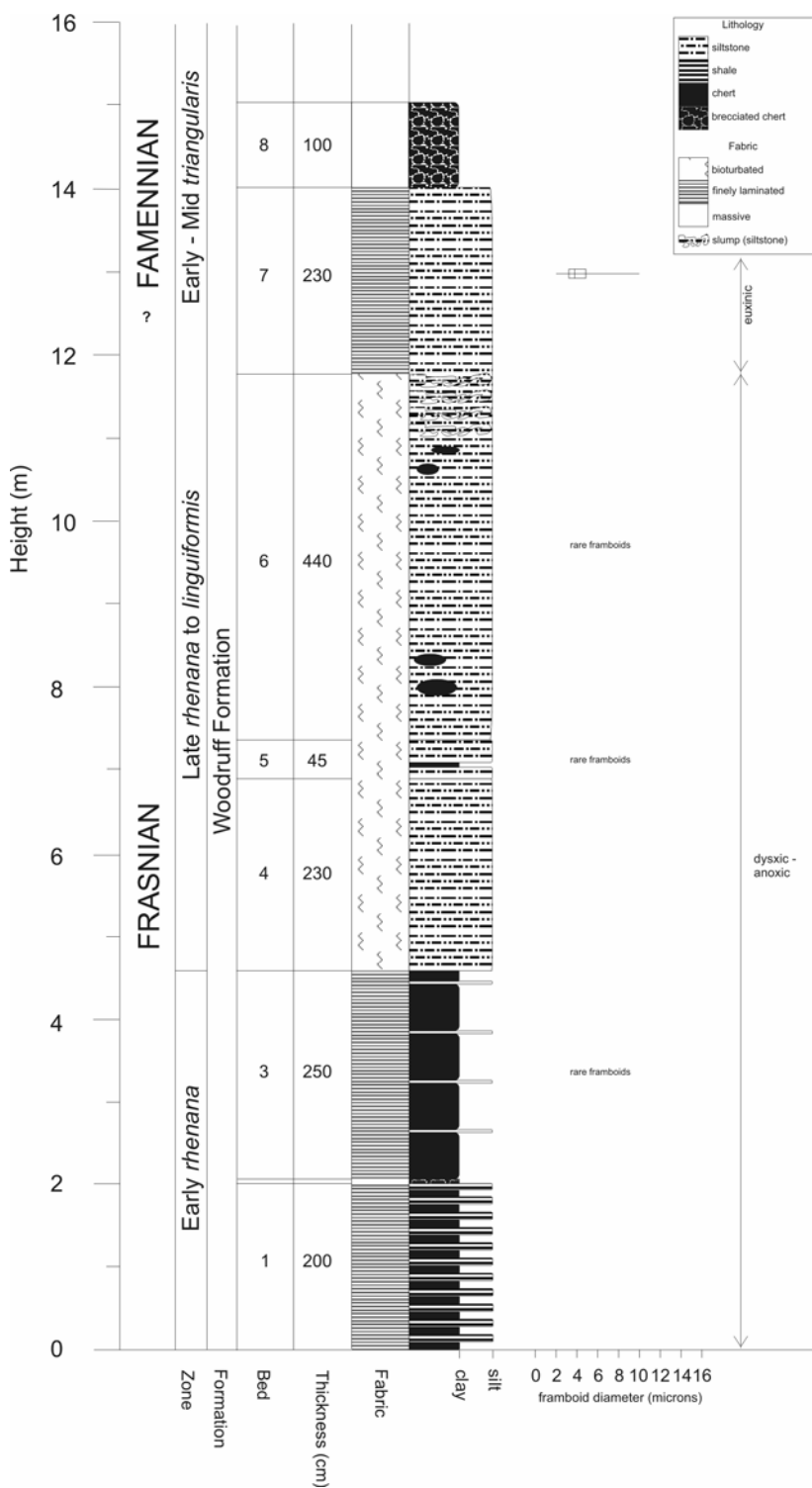


Figure 15: Schematic cross-section showing estimated palaeogeographic positions of Great Basin Frasnian-Famennian sections, and inferred oxygen minimum zone (OMZ) during the latest Frasnian (WRC = Whiterock Canyon; WS = Warm Springs; NAR = Northern Antelope Range; DG = Devils Gate; TM = Tempiute Mountain; CK = Coyote Knolls). Arrows indicate potential spilling of anoxic waters onto shallow shelf areas during latest Frasnian.

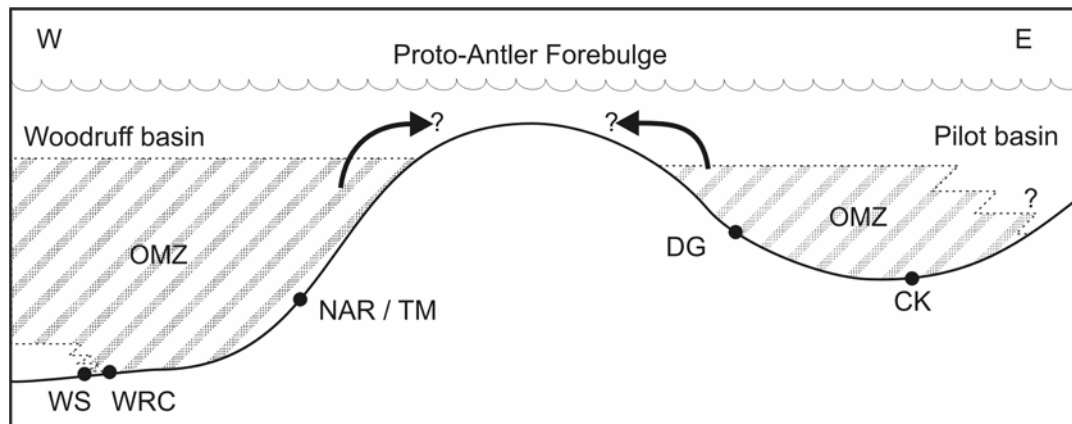


Figure 16: Timing of development of oxygen-poor conditions in the Great Basin (section abbreviations as in Fig. 1). Note that true palaeo-oxygenation conditions across the F-F boundary in NAR and TM sections are probably masked by turbidite events. The hatched shaded band relates to the development of anoxia in the Devils Gate and Coyote Knolls sections and is contemporaneous with the Upper Kellwasser Horizon in Germany.

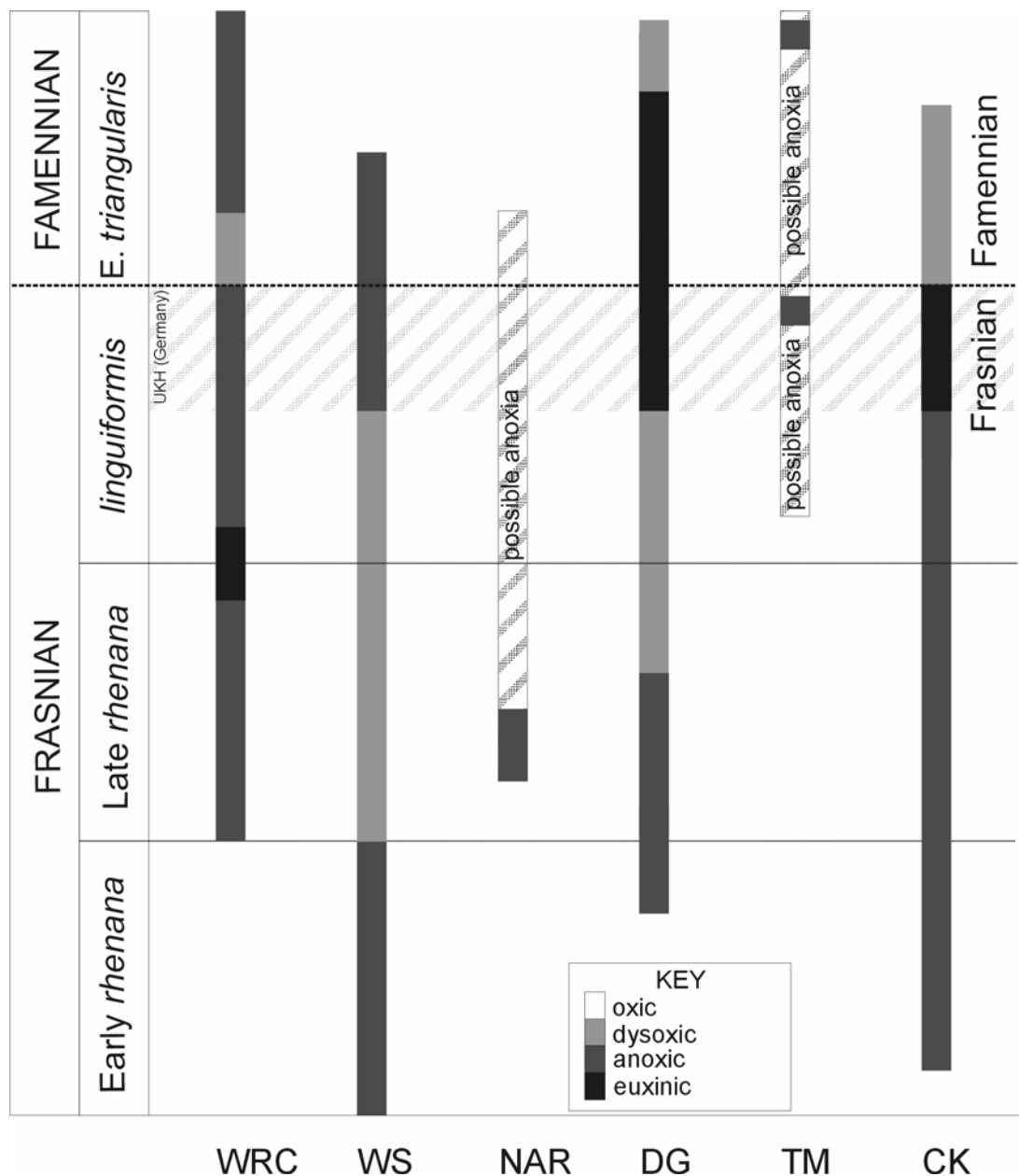


Figure 17. Summary of changes in clastic content in the F-F boundary sections of this study. These values are based on petrographic analyses. Data points are represented by nodes.

