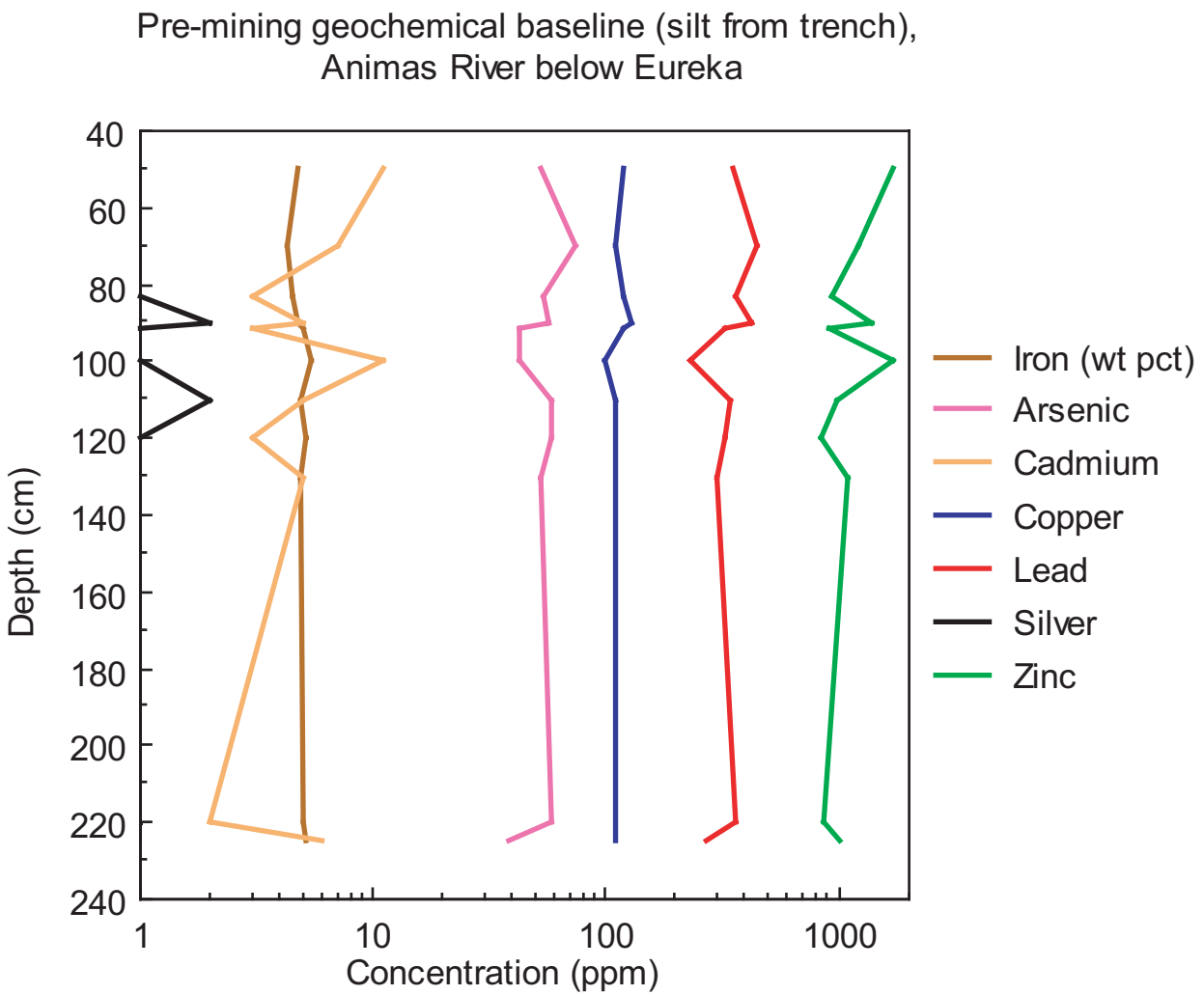

Figure 4. Determination of the pre-mining geochemical baseline, silts in the Eureka to Maggie Gulch reach, upper Animas River. Geomorphological studies of the reach below the Sunnyside Mill at Eureka (Vincent and others, 1999) indicated that milling from 1900 to 1930 resulted in aggradation of approximately 1 m of sediment in the braided reach below the mill during this period. This was caused by dumping of more than 2 million tons of mill waste into the braided reach and resulted in large-scale changes in the riparian environment. Willow carrs, which stabilized the banks of the river, were buried. The silt section, shown in the photograph, constituted the riverbanks in which the willows grew. The silts were sampled at several localities along the trench (Vincent and others, 1999; Fey and others, 2000) and the resulting composite data are shown in the depth-versus-concentration profile. Iron and deposit-related trace-element concentrations are quite uniform throughout the silt section and constitute a good determination of the pre-mining geochemical baseline (Church and others, 2000). Dendrochronology and dating of anthropogenic artifacts in the overlying gravel deposits provide age control for this section (Vincent and others, 1999).