

3_7_1_Soil_micro-morphological_analyses_(Manual_Arroyo-Kalin_and_Tuuka_Kaikkonen)

A total of 22 undisturbed block samples and associated bulk samples was collected from nine separate contexts at Nebelivka ([ADS LINK TO 3_7_3_IMAGE/3_7_3_LOCATION_OF_SAMPLES](#)). In order to retrieve archaeological information and evidence of past formation processes from the soil archive, block samples were made into thin sections for soil micromorphological analysis (impregnated and cut at the UCL Institute of Archaeology; crafted into polished thin sections by Spectrum Petrographics Inc.). Bulk samples were employed for the measurement of different physical and chemical parameters (pH, organic matter, carbonates, and magnetic susceptibility). Among the questions we hoped to answer were: i) What microscopic indicators of human activity could be detected using soil micromorphological analysis? ii) How were the different occupation deposits formed? iii) What factors affected archaeological preservation – including of charcoal and bone - within these deposits? Overall, the study of these research materials illuminated important differences between the different contexts sampled. The micromorphological study recorded an archaeological preservation gradient ranging from (best preservation) the buried surface under a kurgan mound, to pit fills associated with houses, to sediments associated with ‘unburnt’ houses, to sediments associated with ‘burnt’ houses (worst preservation). This study highlighted that, in virtually all cases, intensive bioturbation by soil fauna had obliterated any evidence of human-produced microstratigraphy. On the other hand, contradicting interpretations derived from flotation and hand-excavation that charcoal was sparse to non-existent at this site, the study ascertained the presence of microscopic charcoal comminuted by soil fauna and/or mechanical action to sand-sized or smaller fragments. This latter observation suggests that the soil archive can still be employed for high-precision AMS dating in the future. Detailed results of the soil micromorphological investigations are presented below by excavated feature [[ADS YORK - LINKS TO SECTIONS 5_2_2_1_GENERAL_REPORT \(HOUSE B17\); 5_2_3_1_REPORT \(UNBURNT HOUSE\); 5_4_1_REPORT \(PIT, SONDAZH 1\); and 5_7_1_REPORT \(KURGAN\)](#)].