



# Intra-Site Spatial Patterning of the Templeton Paleoindian Site in Western Connecticut

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## Abstract

The Paleoindian occupation at Templeton is reconsidered based on research conducted since the site's initial study by Dr. Roger Moeller in the late 1970s. This poster describes the intra-site spatial patterning at Templeton gleaned from the 2016 excavations at the site and the reanalysis of the Paleoindian materials recovered by Moeller. Aspects of intra-site spatial patterning ascertained via ground penetrating radar surveys of the landform, lithic microwear analyses, micromorphological sediment analyses, and analyses of phytoliths recovered from sediments are also reported.

## Site Discovery, Excavations, and Surficial Geology

- The Templeton site (6LF21) is located in Washington, Connecticut.
- Roger Moeller excavated the site in 1977 and 1982 to investigate the deeply buried Middle Paleoindian component (Moeller 1980, 1999, 2002).
- Beginning in 2015, Zachary Singer organized a reanalysis of the Paleoindian assemblage recovered by Moeller and directed new excavations at Templeton. Peter Leach conducted ground penetrating radar surveys and UAV surveys of the Templeton landform. Heather Rockwell performed low-powered microwear analyses on Paleoindian lithics. Tiziana Matarazzo investigated the micromorphology of sediments at Templeton. Krista Dotzel analyzed phytoliths recovered from Paleoindian tools.
- Moeller's excavation block is comprised of 79 one and a half by one and a half square meter units. Moeller's excavations employed 1/4 inch mesh.
- Singer's excavations to date include 82 fifty by fifty cm shovel test pits at four meter intervals with two meter arrays, 2 two by two meter excavation blocks, and 1 one and a half by one and a half meter unit. 1/8 inch mesh was used for all excavations.

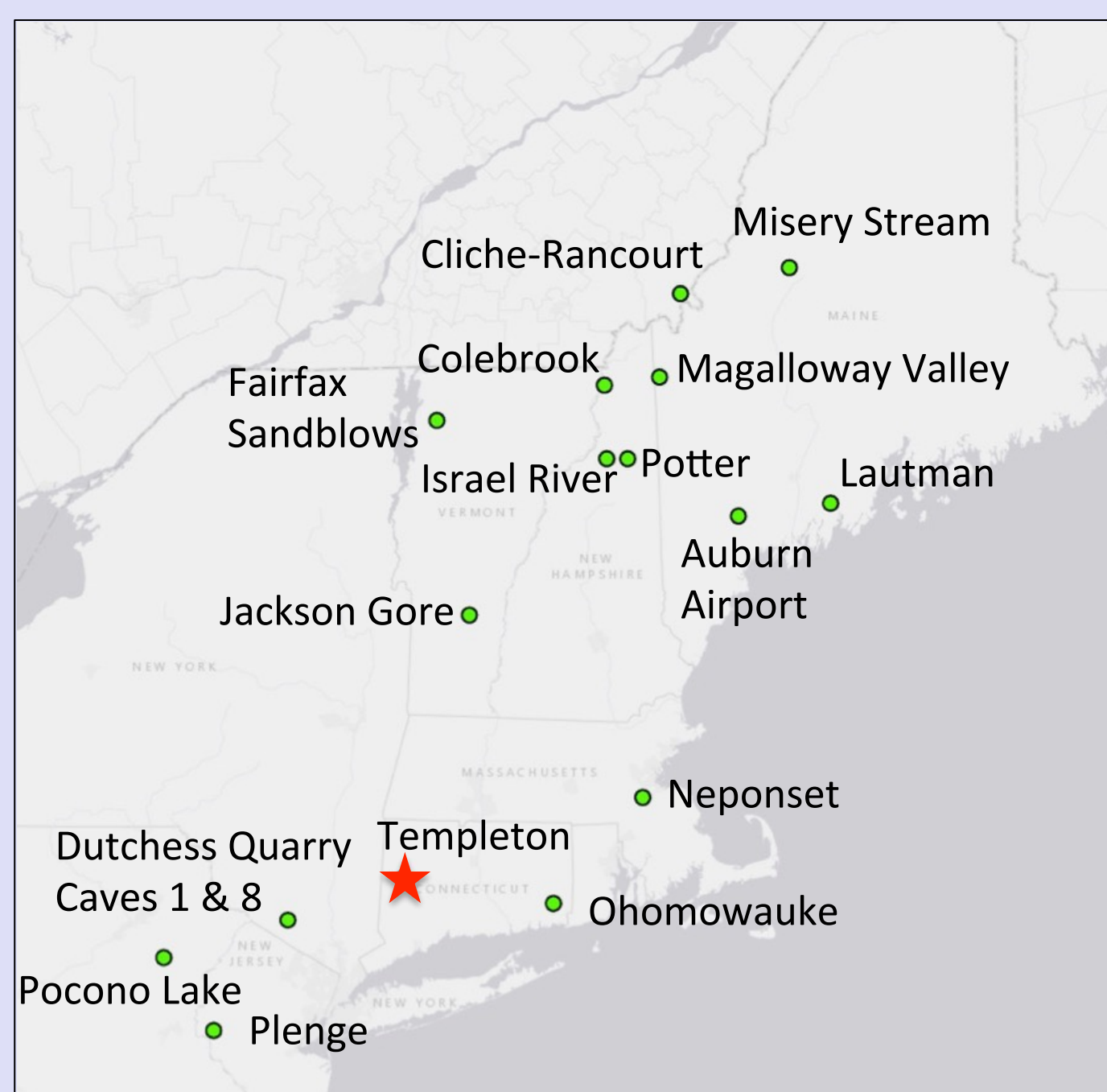


Figure 1 (above): Location of Templeton and additional sites with Michaud-Neponset points in the Northeast.

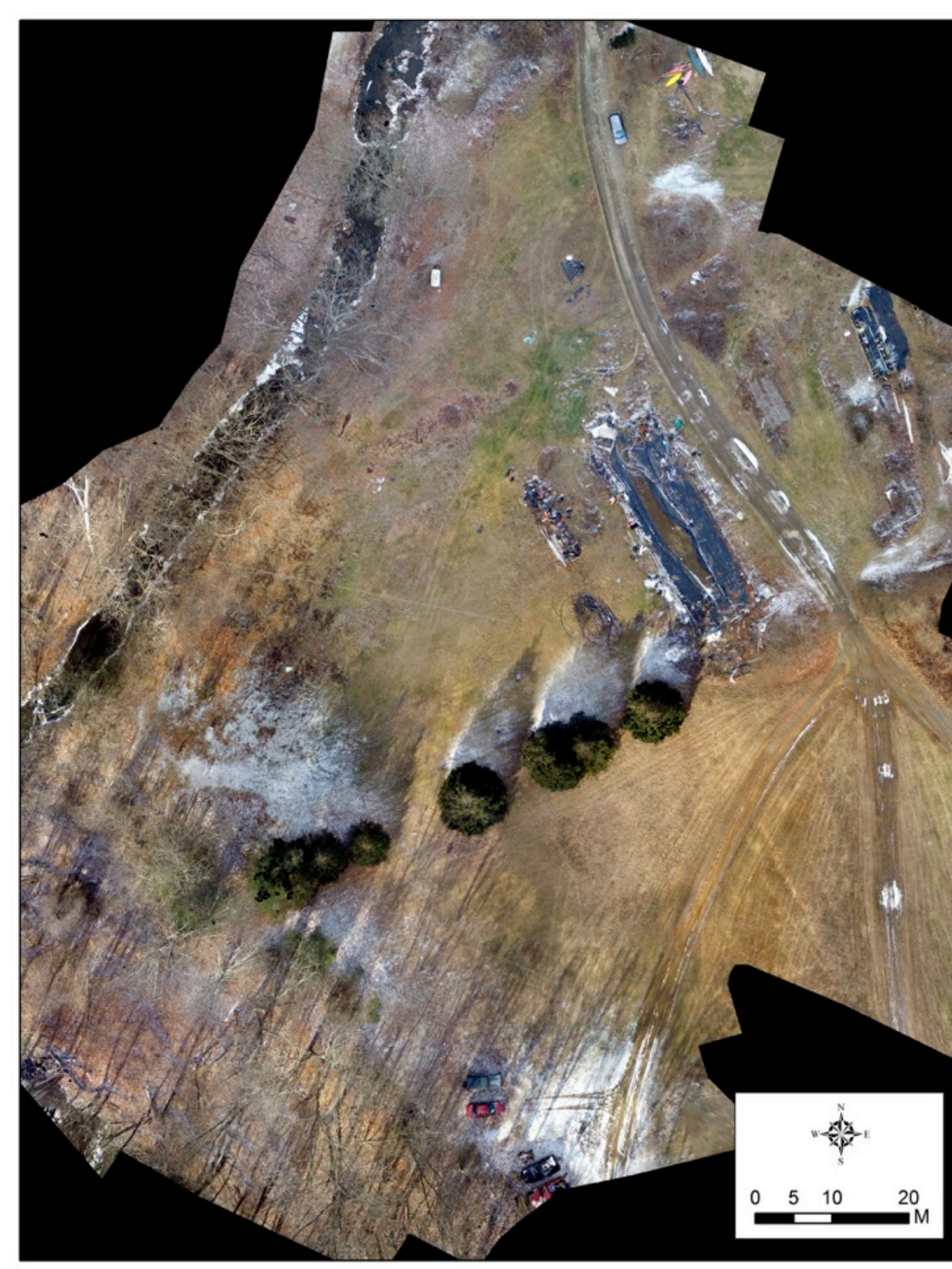


Figure 2 (above): UAV generated map of the Templeton landform. Templeton is situated on the floodplain south of the intersection between Mallory Brook (North) and the Shepaug River (West). The surficial geology is dominated by Windsor loamy sands that have been alluvially deposited.



Figure 3 (above): 3d model of Singer's Block A. Paleoindian lithics are recovered in a buried soil stratum that occurs around 70 to 100 centimeters below surface.

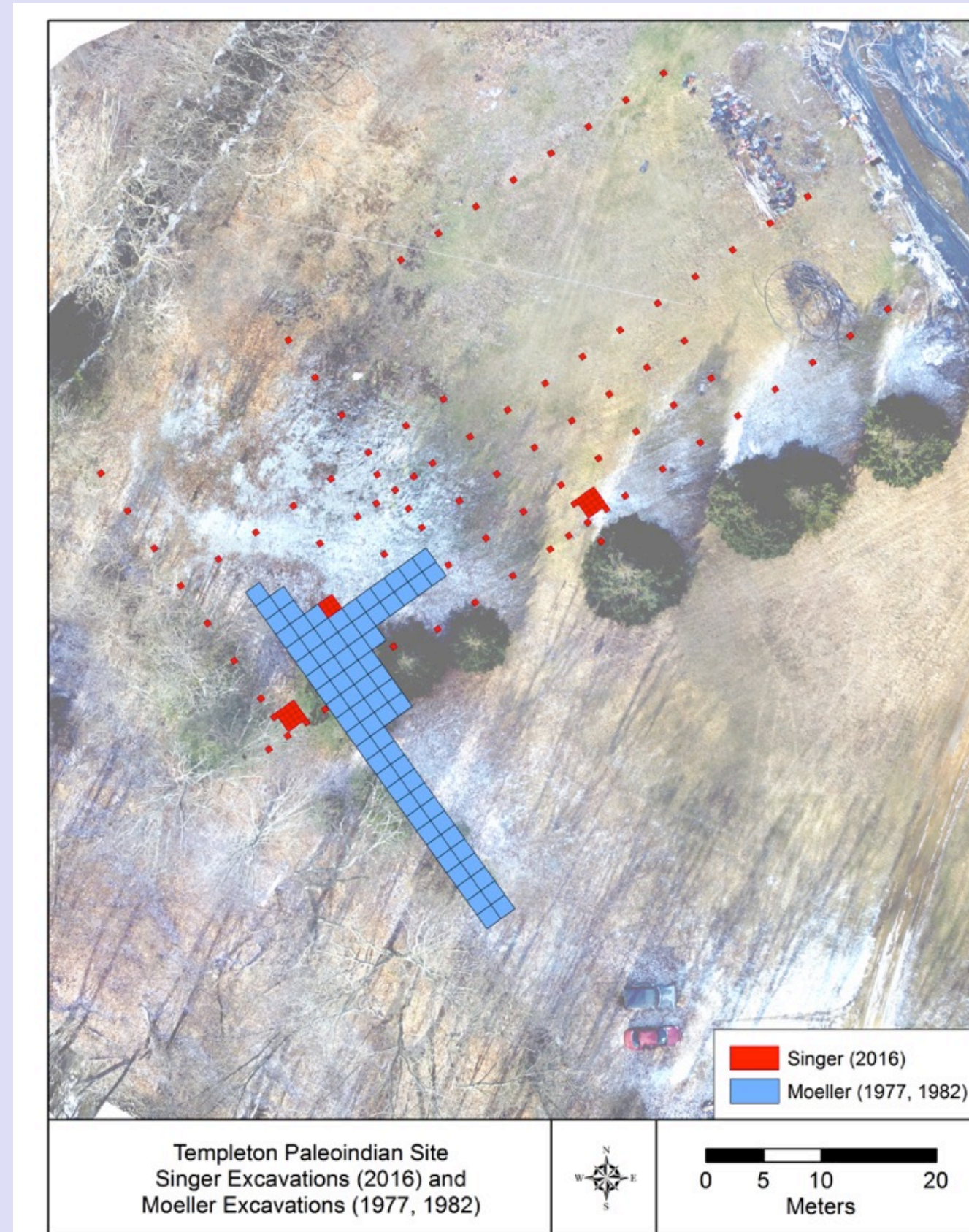


Figure 4 (above): Moeller's and Singer's excavation areas at Templeton.

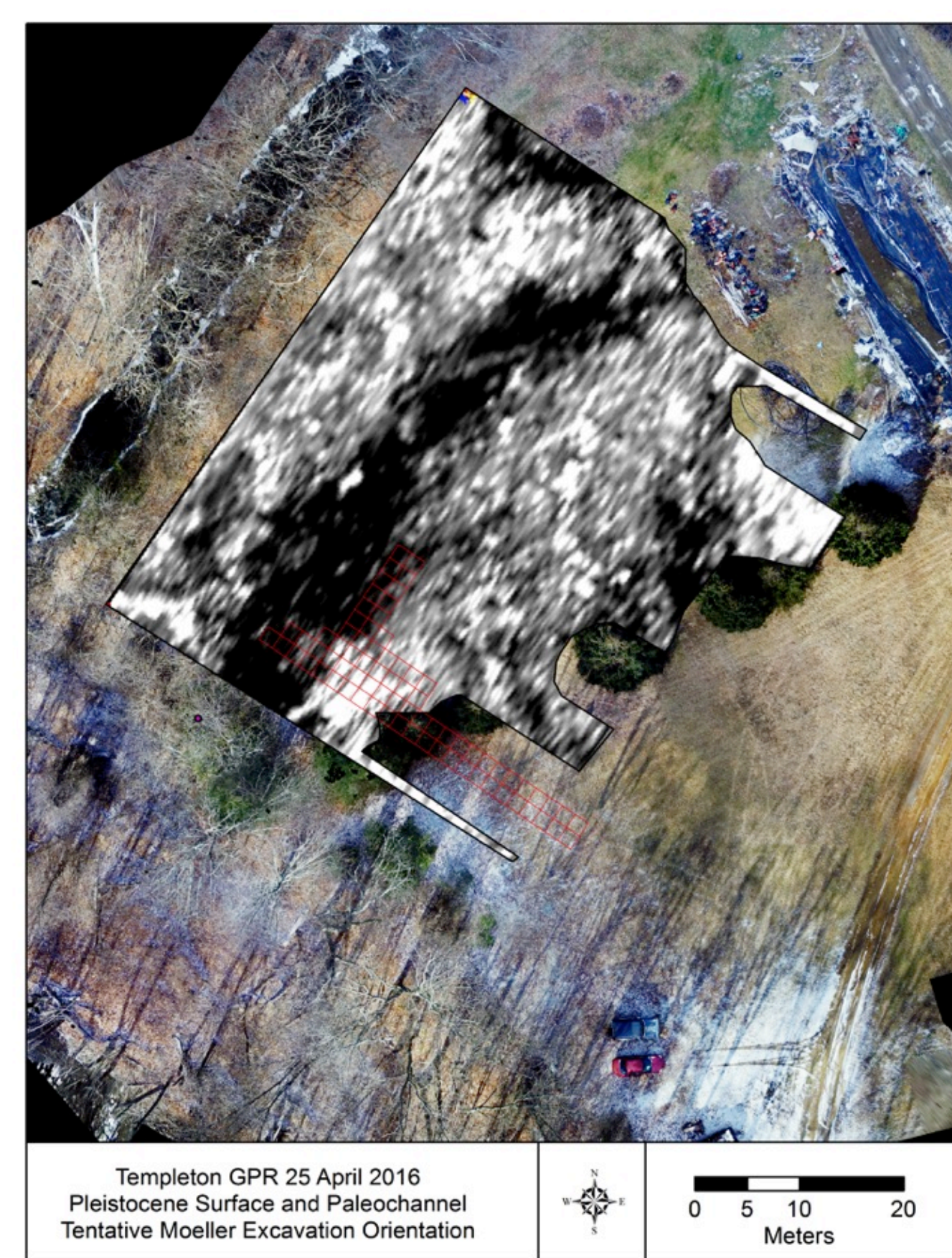


Figure 5 (above): Ground penetrating radar survey of the Templeton landform. A paleochannel is present adjacent to the Paleoindian components.

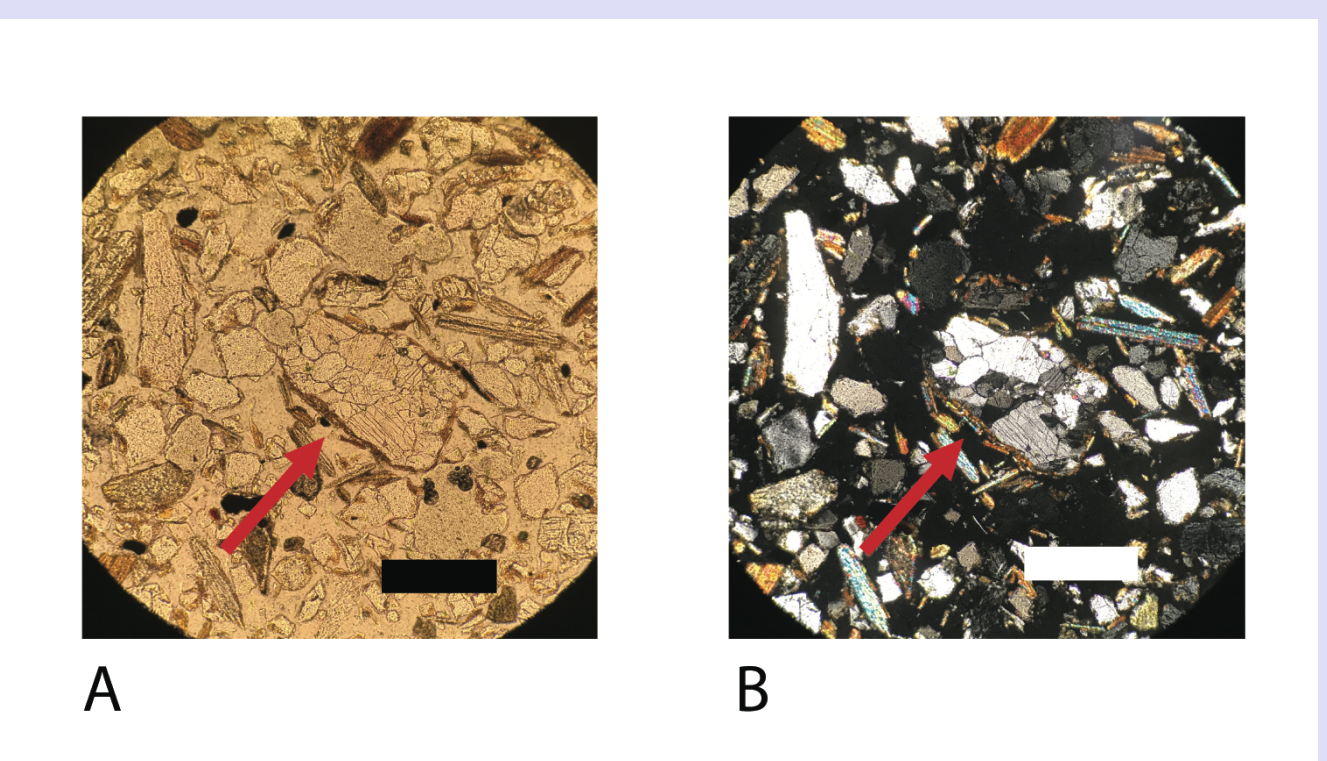


Figure 6 (above): Photomicrographs of thin sections of a flake of the majority toolstone in the Paleoindian component, Normanskill chert, and a local cobble "chert" (actually a siltstone) (Overview scale = 5 mm and Close Up scale = 500 µm). Petrographic analysis indicates that the majority toolstone in the Paleoindian assemblage is Normanskill chert from the Hudson Valley of New York based on the extremely fine grained matrix, abundant fine clays showing green pleochroism, annealed joint fractures, and the presence of well-preserved Radiolaria microfossils (Prothero and Lavin 1990: 565).

## Paleoindian Intra-Site Spatial Patterning

The quantity of debitage, channel flakes, and fluted preform fragments in Moeller's block indicate a fluted point production area. The distribution of lithics in Moeller's block suggest that the block may have contained a few activity areas. Test pits were excavated on the Templeton landform to investigate whether other Paleoindian activity areas were present. Evidence for additional Paleoindian fluted point production areas was recovered. No definitive Paleoindian endscrapers have been found at Templeton, suggesting that tasks involving endscrapers, like hide working (Loebel 2013), were either located in yet undiscovered areas or perhaps not conducted at Templeton.

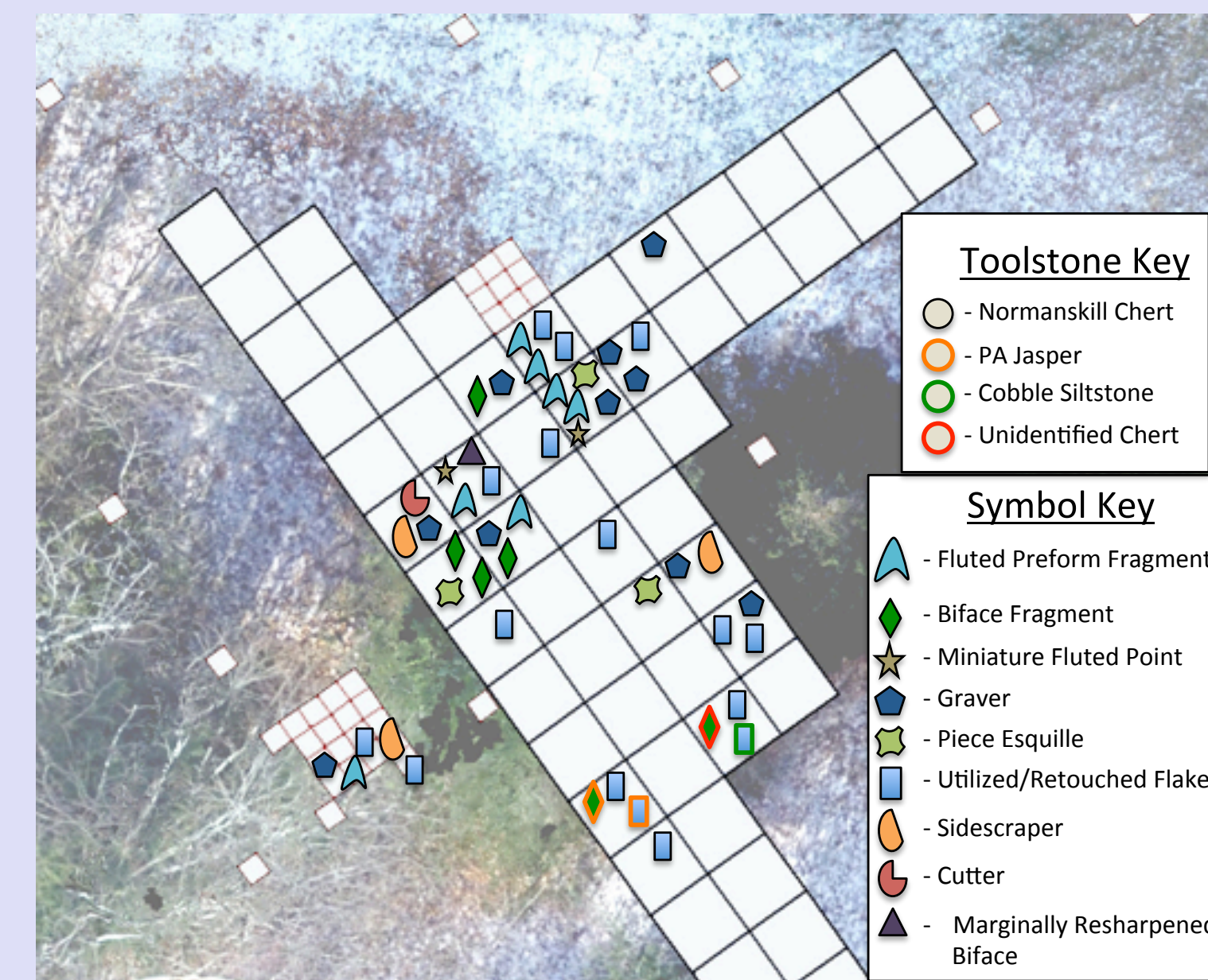


Figure 7 (above): Horizontal distribution of tools in Moeller's block. Concentrations of fluted preform fragments and biface fragments indicate that Moeller's block contains a fluted point production area. Multiple clusters of tools suggest that the block may have included a few distinct activity areas.

Figure 8 (below): Fluted point production debris. Preform morphology, overshoot channel flakes, and length of refit channel flakes (Fig 14) indicate Michaud-Neponset style fluted point production (Bradley et al. 2008).

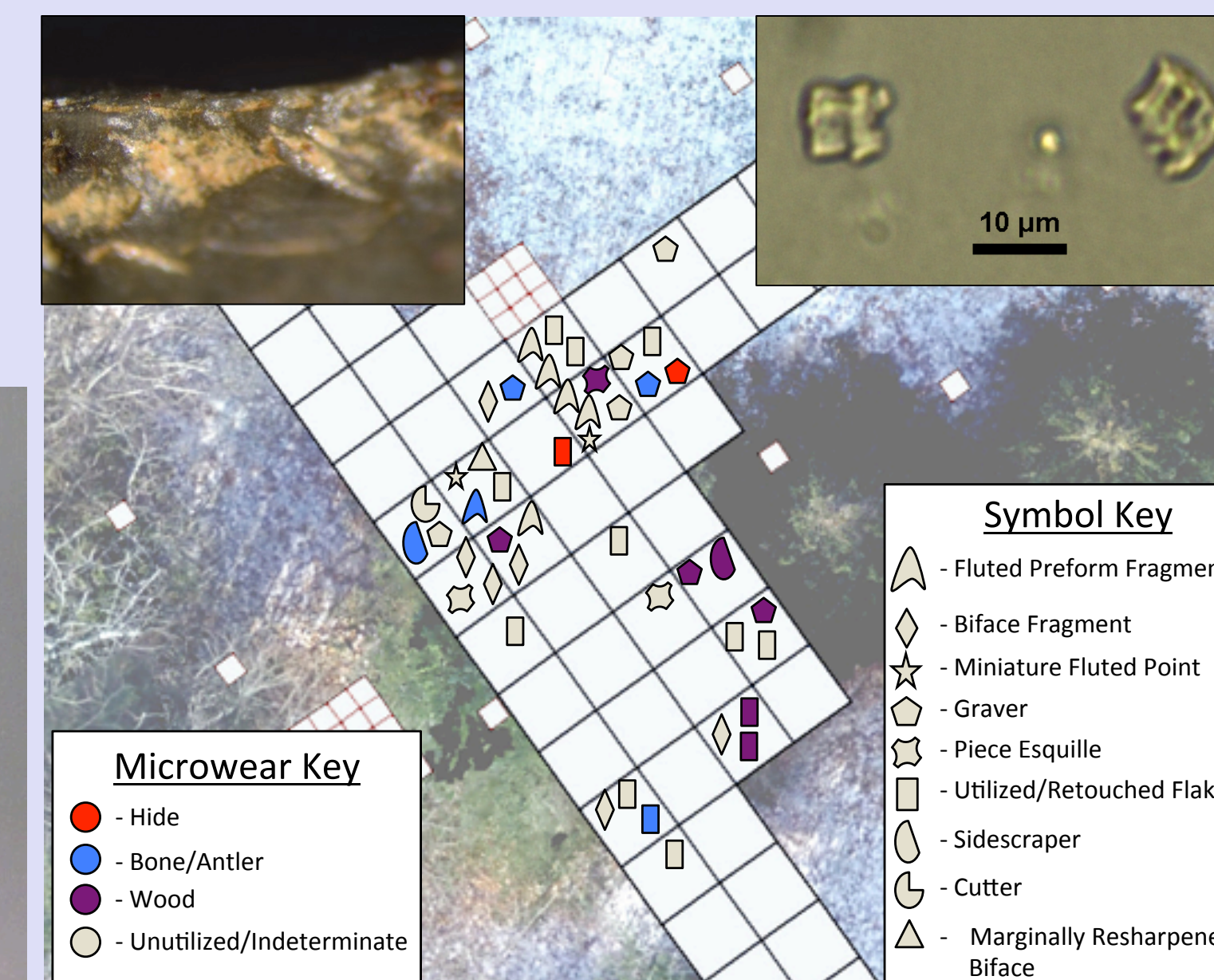


Figure 10 (above): Microwear results from Moeller's block. Lithics were used to work hide, bone/antler, and wood. A cluster of five lithics with microwear suggestive of woodworking may indicate a wood processing activity area.

Figure 11 (inset left): Photomicrograph (40x magnified) of a sidescraper edge with polish suggestive of whittling wood.

Figure 12 (inset right): Photomicrograph of tracheid phytoliths produced by dicots (Scale = 10 µm). Phytolith analysis indicated high proportions of dicot phytoliths (73%) and low proportions of monocot phytoliths (27%) from lithics identified as woodworking tools by the microwear analysis. This proportion is suggestive of woodworking.

## Raw Material Use and Distribution

Moeller originally attributed the majority toolstone in the Paleoindian assemblage to a local cobble chert source and cobble quartz was suggested as a secondary toolstone (Moeller 1980:30, 2002). Thin section petrography and distributions of chert and quartz were examined to test Moeller's assertion.

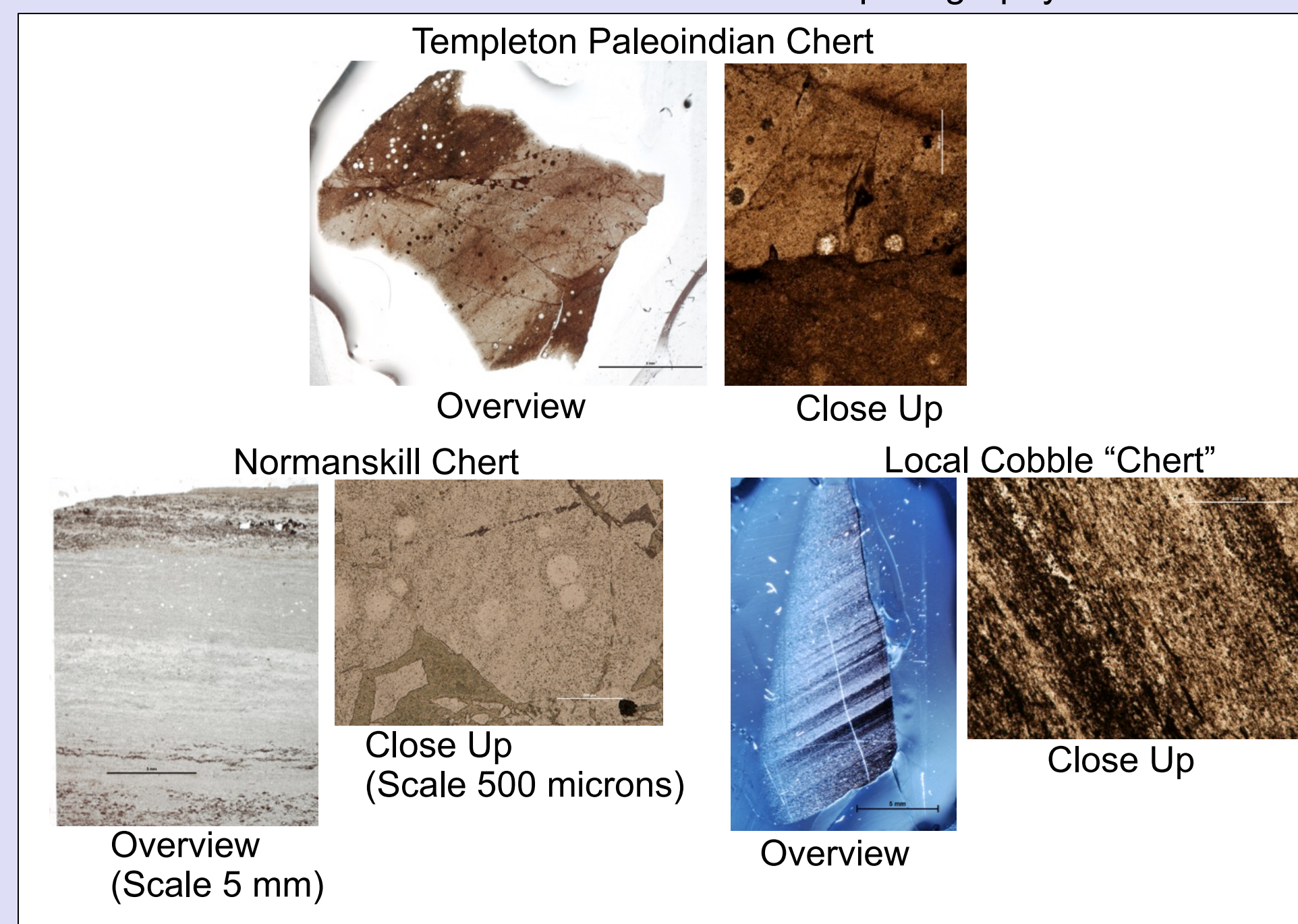


Figure 17 (above): Photomicrographs of thin sections of a flake of the majority toolstone in the Paleoindian component, Normanskill chert, and a local cobble "chert" (actually a siltstone) (Overview scale = 5 mm and Close Up scale = 500 µm). Petrographic analysis indicates that the majority toolstone in the Paleoindian assemblage is Normanskill chert from the Hudson Valley of New York based on the extremely fine grained matrix, abundant fine clays showing green pleochroism, annealed joint fractures, and the presence of well-preserved Radiolaria microfossils (Prothero and Lavin 1990: 565).

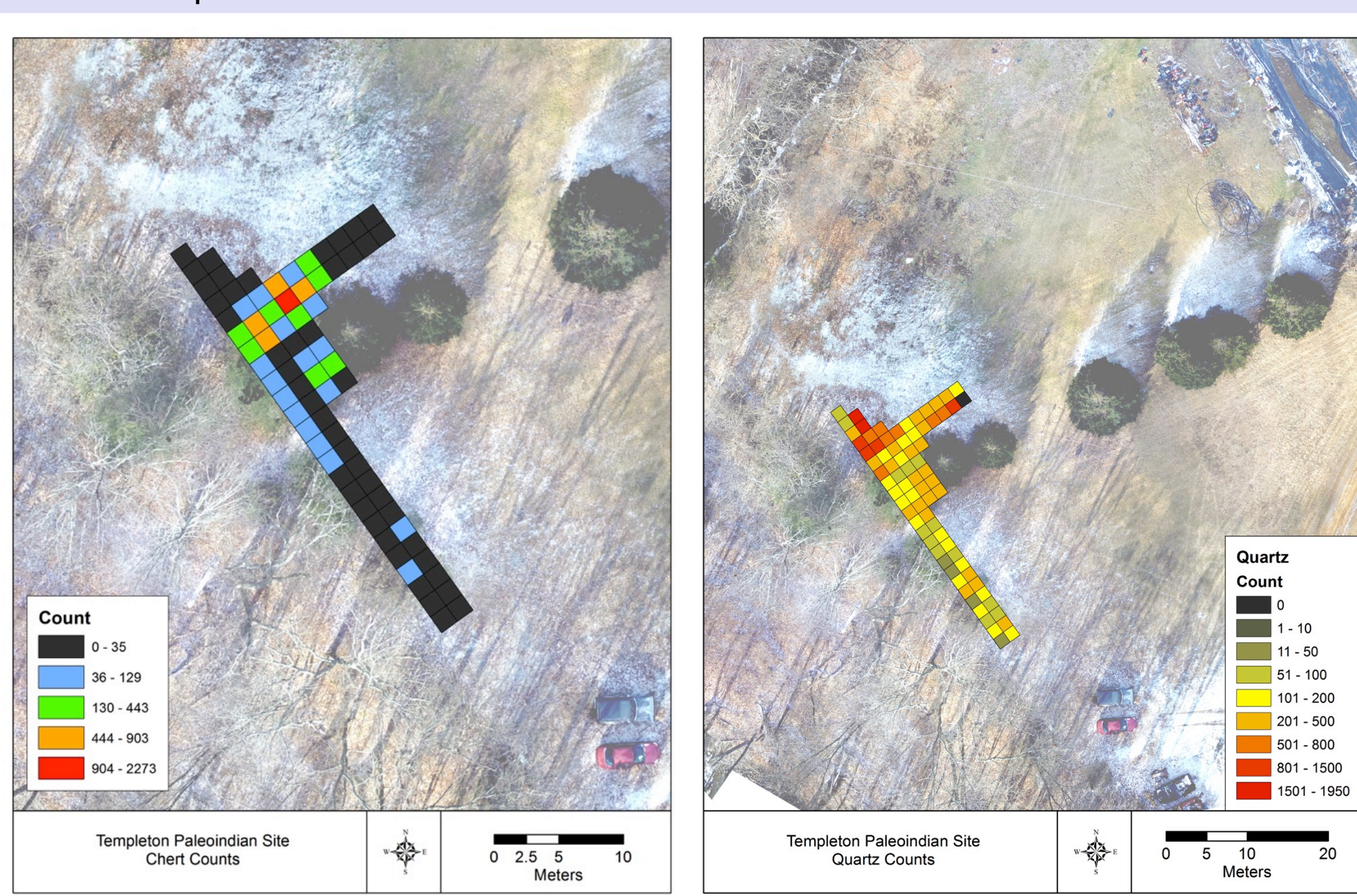


Figure 18 (above): The horizontal distributions of chert and quartz in Moeller's block. Frequencies of chert and quartz do not co-occur. The horizontal distribution of chert indicates multiple spikes in the chert counts, which suggest that a few knapping events were recovered in Moeller's excavation block.

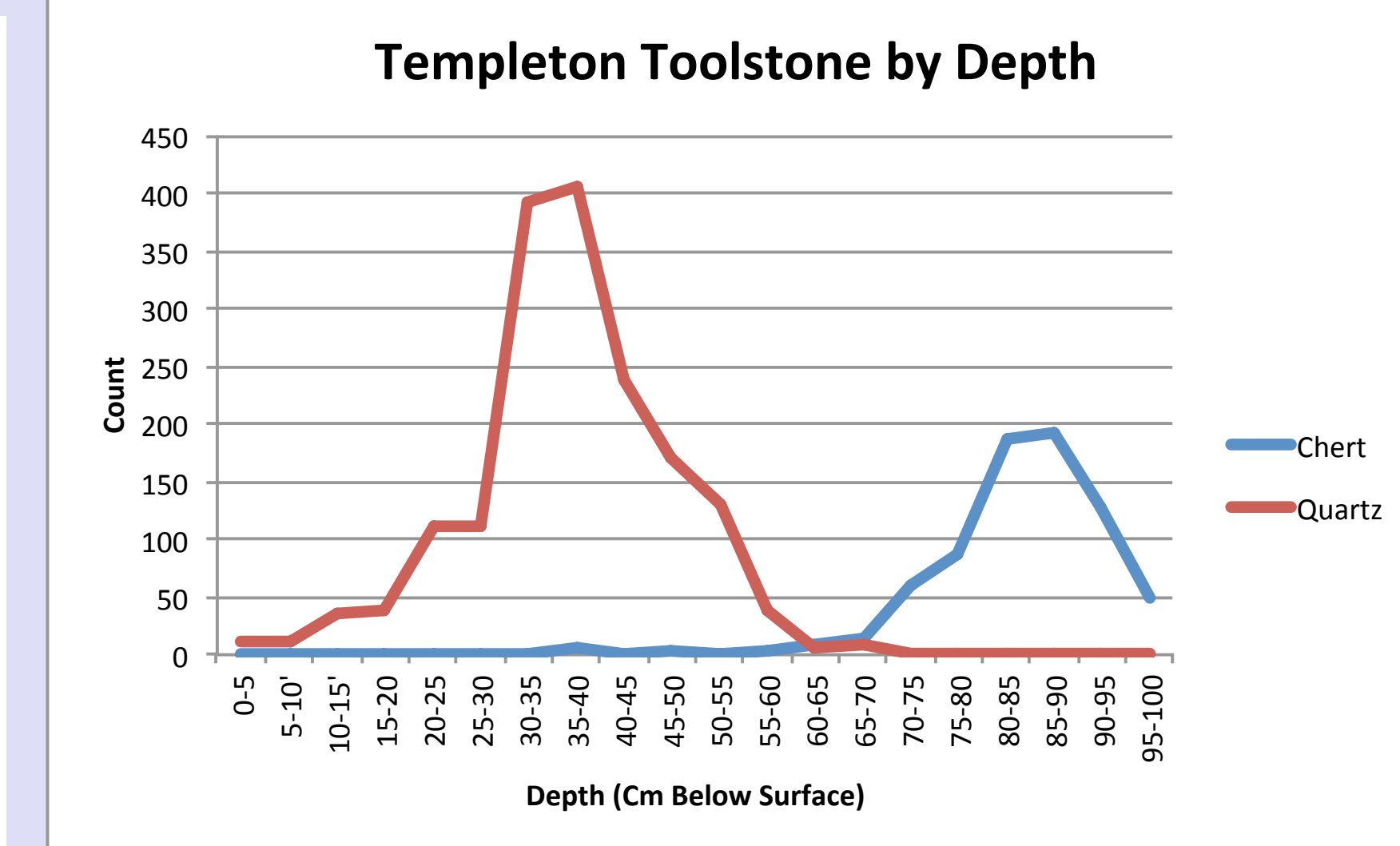


Figure 19 (above): The vertical distributions of chert and quartz from the 2016 excavation. Paleoindian chert is buried beneath quartz. Based on diagnostics recovered during the 2016 excavation, the quartz is mainly associated with a Late Archaic component.

## Acknowledgements and References

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