INTRODUCTION

Beginning in 2014 SUNY Geneseo and Bloomsburg University began a collaborative excavation at the Balthasar Home Site, located in Pickaway County, Ohio. This region was occupied by people of the Hopewell culture during the Middle Woodland period (100 BCE–400CE). The purpose of the excavation was to expose a complete Ohio Hopewell habitation site. Over the course of four field seasons recovered an assemblage of stone tool technology (called lithics in archaeology terms) largely consisting of flakes, pieces of stone which were removed from chert cores during the creation of stone tools. Flakes can also be evidence of retouching of large stone tools, such as bifacial knives and spears. The lithic assemblage was then analyzed in SUNY Geneseo’s North American Archaeology Lab. The assemblage was broken down into chert (flint) type, size, and weight for all classes of flake type, as well as length, width, and thickness (mm) for all complete flakes recovered. This was done in order to determine the nature of this assemblage, interpret trends in core reduction and stone tool maintenance, as well as the way in which the occupants organized and utilized chert at this site (Sullivan and Rozen 1985).

METHODS

In the lab, we analyzed all of the lithic assemblage collected at the site since the first field season, excluding bladelets and bifaces as they are not considered flakes under the theoretical analysis employed. We utilized the technological attribute key for debitage analysis first proposed by Sullivan and Rozen (1985) to objectively and systematically measure and catalogue the lithic remains. First we weighted and categorized the lithics in each unit by flint type and classification under the attribute key (fig. 1). Following this we measured and collected data about the complete flakes, specifically their raw material, whether cortex was present, and their width and length (mm). After completing this data collection for the recovered lithics from all four field seasons we proceeded with our analysis.

ANALYSIS AND RESULTS

An analysis of the overall weight (g) of the recovered lithics indicates an overwhelming amount of Columbus Delaware flint, the raw material which is local to the region, present at this site (fig. 2). There is a large difference in the amount of Columbus Delaware flint in relation to the other types. For example, there is nearly twice as much in weight compared to the next successive type (Flint Ridge). In addition to the large amount of Columbus Delaware debris (fig. 3) most of the cores recovered were of this type. Furthermore, an analysis of the complete flakes in the assemblage shows that regardless of the disproportionate amount of Columbus Delaware chert, the complete flakes of every raw material have similar medians for their length, width, and thickness (fig. 4). However, there are by far more Flint Ridge complete flakes (fig. 5) than any other material type, even Columbus Delaware.

Additionally, while the ratio of complete flakes to overall weight is much higher for the Indiana Hornstone type, likely due to the workability of the chert resulting in more complete flakes than other debitage forms, there is still an overall much lower presence of Indiana Hornstone, as well as Upper Mercer and Brush Creek material (for which there are no complete flakes) than the other two chert types.

A spatial analysis of the lithic assemblage was conducted by plotting the distribution of different flint types using Surfer (fig. 9, fig. 10). The location chosen for this analysis is in association with a topographic high spot in the field, which was found to contain the remains of two overlapping Hopewell houses. The first house dates to approximately A.D. 225, while the second dates to approximately A.D. 375. While the flint recovered is clearly concentrated in the area with the structures, there is no clear correlation between features and any particular type of flint, complete flakes or otherwise. Repeating the process with only the complete flakes by type (fig. 13) produced similar results.

CONCLUSION

Our analysis tells us that this site was likely a manufacturing site for Columbus/ Delaware stone tools, and perhaps a retouching site for tools of other types, which would have been more difficult to obtain in comparison to the locally available Columbus/ Delaware chert. We acknowledge that the frequency of different complete flake types in comparison to the overall weights may be due to differential preservation, as transformation processes may have broken complete flakes differentially to these chert types. However, we believe this indicates that despite the ease of procuring Columbus/ Delaware flint, the occupants of this site favored retouching tools made of non-local chert types, especially Flint Ridge, which is likely due to its workability, and aesthetic appeal. Other types of flint that yielded complete flakes, such as Indiana Hornstone and Upper Mercer, yielded fewer complete flakes and less broken flakes, fragments, and debris by weight and number. Additionally, the ratio of complete flakes to total weight of recovered chert (0.38, 0.30, respectively) is much higher than that Columbus Delaware (.007) This is additional evidence that there was likely little manufacture of tools of these flint types at this site, but rather retouching of utilized tools was taking place.

ACKNOWLEDGEMENTS

We would like to thank Don Balthaser, the owner of the site, as well as Professors Paul Pacheco and DeeAnne Wyther, Dr. Janet Berk (RPA) and all the students of the 2014, 2015, 2017, and 2018 field seasons for their participation in this endeavor.

REFERENCES
