



Honors Theses at the University of Iowa

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Experimental White Glazes

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EXPERIMENTAL WHITE GLAZES

by

Elizabeth Mann

A thesis submitted in partial fulfillment of the requirements
for graduation with Honors in the Art, Studio

Josh Van Stippen
Thesis Mentor

Spring 2017

All requirements for graduation with Honors in the
Art, Studio have been completed.

Lynne Lanning
Art, Studio Honors Advisor

EXPERIMENTAL WHITE GLAZES: A FOCUS ON TEXTURE

Elizabeth Mann

Spring 2017

Josh Van Stippen

School of Art and Art History

Throughout my experience in the School of Art and Art History at the University of Iowa, my focus has been centered on ceramics, specifically functional work. During my final year I made a shift to sculptural work and an interest in glaze chemistry. With these ideas in mind, my overall goal for this project was to experiment with a variety of materials in hopes of creating three to five new glaze textures to use on my final pieces.

My focus for this project is on texture, not necessarily on color, and how different elements and chemicals in glaze materials can work together to create different effects. The experiments I have conducted with glaze chemistry throughout my time working on this project have resulted in many failures with a small percentage of success. My process with this project has included book research in the Val Cushing handbook that has a compilation of a variety of different base glaze recipes as well as what specific elements make a glaze white. My purpose for a plain color palate is to focus more on texture and to have the viewer experience the pieces closer and more intimately. The substance I have most frequently worked with for differently textured, white glazes has been zircopax, which is an substance that is high in zirconium silicate. It is used in glazes as an opacifier to make the glaze less transparent. A larger volume of this element will result in a white glaze. Other elements I have been experimenting with have been zinc and tin oxide as well as differentiating volumes of flint/silica. During my process with this project, I have experimented with over seventy different glaze recipes and formulations by measuring out one hundred gram batches, applying the glazes to test tiles, firing the tests to cone six or 2232 degrees Fahrenheit, waiting for my results, and then troubleshooting my mistakes. At the beginning of my research and experimentation, there were many glaze recipes that were not turning out white which led me to the discovery of the material, zircopax. Because this is a reliable material, I was able to focus more on experimenting with textures knowing that the glazes will turn out white.

My experiments have led to four different glaze recipes that I have altered in some way to be applied to my final pieces for display. Although glaze experimentation is a process that could continue for years, I am pleased with the few successful results from this project and the amount of knowledge I have gained in glaze chemistry. These experimentations have given me the knowledge I desired for at the beginning of this project. I believe I was most successful in the way I conducted thorough research and executed my experiments with care. While I believe my process has been successful, I know that there is much more to consider in the world of glaze chemistry. In the future, I would like to continue these experiments with texture and how I can create the results I want while being more economical by firing my tests at a lower temperature.