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Soda

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SODA

by

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

Andrew Casto
Thesis Mentor

Spring 2019

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

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SODA
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Soda Firing is an atmospheric firing technique that produces radiant colors and surfaces, ranging from oranges and yellows to deep reds and browns. The flame pattern and soda vapor interacts with the clay body creating a color response. Once the kiln door is shut these pots share an experience together that the creator is isolated from. My research is based on operating the soda kiln and turning the spontaneity of the firing into a controlled process to produce results geared towards my personal aesthetic.

The clay body, glaze and slips, temperature, atmosphere, placement of an object and direction of soda ash determine the outcome of a pot. While the pyrometer reads the air temperature of the kiln, pyrometric cones are placed inside the kiln near the spy hole to determine the temperature of the work. Cones are made of ceramic materials that have different melting points. Each cone melts at a certain temperature, giving an accurate representation of the temperatures progress. Clay rings placed inside the kiln close to the spy hole are pulled out of the kiln throughout the spraying process to monitor the amount of soda. When the kiln gets hotter, there are small adjustments made to the damper, air, and gas. The damper allows for air to flow through the kiln. It should be pushed in slightly to start the reduction at cone 012 (1600° F). Reduction fire starves the kiln of oxygen and produces intense earth tones. The air and gas need to be slowly bumped up over the duration of the firing in order to gain heat. Soda ash is crushed into a powder, dissolved in water and sprayed into a soda kiln during high reduction at cone 8 (2280° F). The fire and soda ash strike the pot at different angles, creating a dynamic surface. I'm interested in the different effects produced by the amount of soda ash and placement of pots. While these pots sit together, they create pathways for the soda to travel. Pots that were closer to the spy hole were blasted with soda ash, producing a thick grey/blue surface. After the first firing I noticed a mesmerizing brown that appeared inside my vessel. I've learned that the inside of my pots generated this color because they are enclosed; receiving a light coating of soda ash that produced a shiny brown surface. My goal for the second firing was to produce this color on the exterior. I fired small cups that were surrounded by work twice the size. These cups were sheltering from soda exposure, triggering the rich color on the interior and exterior. In the third firing I fired a large vessel and placed tall pots around it in hopes of generating shadows. These tall pots work as a shield, obstructing large amounts of soda ash from hitting my vessel, ultimately obtaining a diverse surface.

I've learned how to successfully operate the soda kiln and place pots in a manner where I can achieve a variety of color and texture. In order to have a controlled outcome, I will need to continue to study the pattern of the soda kiln. This will be achieved by recording the process of multiple firings to come.