

Smoke and Form

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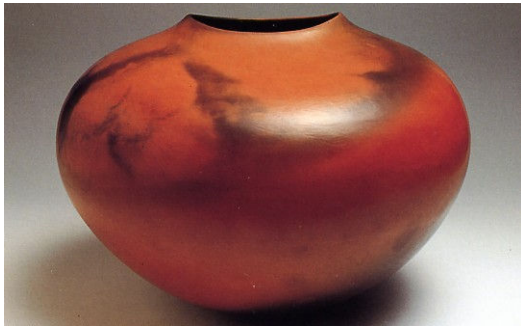
Individual Research Project by Kevin Dykstra

My first year in ceramics has been interesting, challenging and fun as I developed a base set of skills allowing me to explore even further who I am artistically. Our first firing of the year was sawdust firing and we were introduced to the beautiful black pots that Maria Martinez created using traditional pueblo Indian hand building and firing techniques. I was drawn not only to the deep rich black that she obtained through her reduction technique but also the process and patience she had to hand build, burnish and decorate her pots. It felt very meditative to me and I sensed I would enjoy this technique. I knew that sawdust firing with its simplicity and natural smoking effects was something I wanted to learn more about. My Individual research project is therefore about 2 elements of a firing technique called sawdust firing. The 2 elements are smoke and form. From a “form” perspective I am interested in the shape of my pots and the texture and colour of the surface. On the “smoke” side I am interested on controlling the amount and placement of smoke so to create pleasing aesthetics for my forms.



Maria Martinez's black pots

In the beginning, I was interested in the black pots of Maria Martinez and therefore wanted to try to duplicate her results. While I was planning on developing my skill on the wheel rather than hand building the pots using coils as Maria Martinez had done, I was interested in seeing if I could achieve completely black pots with a high burnished surface using the facilities available to me at Concordia. This idea evolved from my very first project using sawdust firing. I was pleased with my first attempt but I knew I could obtain better results if I understood more of the techniques. What clay body should I use? How much iron content should it have? At what stages should I burnish my pots? How often? Using what tools? What fuels should I add to the sawdust to improved reduction? My research began with this motivation only to change direction as I discovered the many options available within the realm of sawdust firings. My pots could have colour rather than just black and white. I could also control the amount of smoke and placement of smoke by bisquing the pieces in advance and by utilizing various resist techniques. And there were many other things to consider during the firing that would impact the reduction that was desired.



Gabriele Koch. T- Material with small amount of porcelain. Burnished coil pot. Bisqued to 950 C. Height 13cm

My research therefore deals with the technical issues of sawdust firings and I was inspired first of all by Maria Martinez with her black pots and then by the many artists described in the book *The Complete Potter: Sawdust Firing* by Karin Hessenberg. Artists such as Gabriele Koch, Antonia Solmon, Karin Hessenberg, and Duncan Ross are the artists that inspired me the most to explore further the other dimension of sawdust firings. As I mentioned earlier, my research evolved along 2 elements of sawdust firing, smoke and form. From a “form” perspective I researched and was interested in seeing the affects of different clay bodies (stoneware, porcelain and terra cotta), colouring (clay bodies, coloured slips, oxides and terra sigillata) and burnishing techniques (at leather hard and bone dry stages, and the use of stones, spoons and burnishing tools). From a “smoke” perspective I researched and was interested in seeing the

affects of bisquing (cone 08), resist techniques (slips, engobe, tape, dry grass, slabs, steel wool), fuels (sawdust, branches, pine cones), types of kilns (saggar, bin, pit, brick, bonfire, open-pit), and the firing process itself (arrangement of pieces, air circulation, sealing the kiln at the right moment).

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While I was able to explore many techniques of sawdust firing there are many other techniques still unexplored and many new questions that I have. The following are just a few of the questions I have so far. What is the affect of applying a creamy grogless slip prior to my thin coats? Is it easier to burnish? What are the affects of other oxides and different percentages? What are the affects of different bisqued temperatures? Can I go lower to cone 010 or 012 to improve luster and still have pieces that are not too fragile? What other resist techniques can I invent? What fuels can I test to increase the temperature and improve reduction?

Not including the test pieces, the following table details the sawdust firing techniques for the 15 pots presented as part of my individual research project.

Note: All pieces were burnished prior to adding the colouring at the leather hard stage and then later at the bone dry stage by first applying water lightly to a small area. All pieces were cleaned and then buffed with bee wax after the sawdust firing to bring back the luster of the pots.

| Pot # | Clay Body | Prior to Bisque (colouring) | Bisque | After Bisque (resist technique) |
|----------------------------|-------------|--|-------------|---|
| Black Pots | | | | |
| 1 | Stoneware | Thin grogless slip – no colour | Not bisqued | Nothing |
| 2 | Stoneware | Thin grogless slip – no colour | Not bisqued | Nothing |
| 3 | Stoneware | Thin grogless slip – 10% red iron oxide | Not bisqued | Nothing |
| 4 | Stoneware | Thin grogless slip – 10% black iron oxide | Not bisqued | Nothing |
| Smoke and Form Pots | | | | |
| 5 | Stoneware | Newman Red Terra sigillata with masking tape pattern | 08 | Nothing |
| 6 | Stoneware | Thin grogless slip – no colour | 08 | Dry flower covered with slip and wet slab |
| 7 | Stoneware | Thin grogless slip – 10% cobalt | 08 | Thin and thick slip in some areas |
| 8 | Stoneware | Thin grogless slip – 10% copper | 08 | Purposely broken a fired in pieces |
| 9 | Stoneware | Newman Red Terra sigillata | 08 | Thick slip over entire pot |
| 10 | Terra cotta | Nothing | 08 | Masking tape and thick slip |
| 11 | Terra cotta | Nothing | 08 | Grass string and think slip |
| 12 | Terra cotta | Nothing | 08 | Steel wool around head |
| 13 | Porcelain | Newman Red Terra sigillata | 08 | Thick white engobe design with thin 04 transparent glaze |
| 14 | Porcelain | Thin porcelain slip – 10% yellow ochre | 08 | Applied turquoise raku glaze and fired in raku |
| 15 | Porcelain | Nothing | 08 | Steel wool around head and thick engobe over entire piece |

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