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Sweet Tooth installation, Centre of Contemporary Arts, Cairns QLD, 2008, hay clay, engobe, cone 6, assemblage, maximum h.250cm, minimum h.200cm, w.36cm, d.36cm, photo: David Campbell



Sweet Tooth installation (detail); photo: David Campbell

Barbecued Clay. Yum!

Jenny Valmadre cuts corners with recycled clay

There are a few things about working with clay that many, if not all, potters loathe. The recycling of clay with the slaking, kneading and wedging requires a much stronger work ethic than I have. Then there's the separating of different bodies into different bins. I often end up with that mystery bucket of sludge – is it white earthenware or white stoneware? I hide and stockpile clay for recycling with the strategy of 'out of site, out of mind'. The construction and removal of armatures for large-scale sculpture has bothered me for years. It is the time-consuming and not particularly creative process of rebuilding and repairing the work, once the armature has been removed, that I find so irksome. Then there are the methodical building processes like coiling or slab-building, processes that require meticulous attention to the maintenance of consistent thickness, joining, drying and firing.

This mass of dos, don'ts, whatnots and maybes, can make it a long journey before you get to the good stuff – spontaneity and creativity. I wanted to easily recycle clay, to sculpt without the constraints of armatures, body thickness or any concern for bad joining, the introduction of air pockets, slow drying or slow firing cycles.

The term 'barbecue clay' came from desire and necessity. How do I take advantage of my stashes of clay waiting to be recycled? There were no more guilt-free hiding places left. How could I use all the waste clay (contaminated with plaster) from mould making?

My line of research started with this common problem – recycling. After using my extensive supply, I collected waste clay from educational institutes and many potters generously donated their 'shame collections' of mixed un-recycled clays.

Damp clay was broken up, dried out and slaked, exhausting my work ethic and labour commitment to recycling. Iron-bearing clay was mixed with white, earthenware with porcelain, raku of all kinds with paper clay; even the contaminated clay from mould making was included in the mix. These different bodies were blended with a drill and mixed to a consistency similar to concrete slurry. With a binload of a mixed blend of bodies, I settled on a firing temp of cone 6 (around 1220°C).

I had my clay, but how was I going to use it without drying, kneading and wedging? How was I going to sculpt it without agonising over thickness, coils, slabs or armatures? How was I going to fire it without extended drying times, water to steam problems and long firing cycles? The first solution was to use the clay as slurry, work it like a plasterer would over an armature that would burn out. This resulted in fragile work that was prone to blowing (if fired fast) and it also required drying prior to firing.

Working with the slurry was a part solution, as no drying, kneading or wedging was required, however its application was the challenge. The solution seemed to be making the clay itself the armature, working solid and stiffening it as I went. To do this I needed to reduce the shrinkage rate and increase the openness of the body to deal with the abundance of steam caused by force-drying wet clay.

I started by adding bagasse (sugar cane pulp) and wheaten chaff (horse feed) to the clay slurry. Both materials made the slurry clay malleable, but because bagasse and chaff have a short fiber length they reduced the plasticity along with the wet and dry strength of the body. Basically, the mixture still required an armature to hold a form in a wet state, and it broke easily once dry. Test pieces were made with inconsistencies in thickness to examine the mixture's ability to survive steaming and thermal shifts. Wonderfully, none required drying and they fired wet and fast with out any losses. Even the small amounts of plaster caused no problem; the burnout was excellent and the structures robust and light. Both materials created decent avenues for the steam release regardless of thickness and the organic burnout opened the body sufficiently to give the flexibility required to withstand the thermal stresses of



Sweet Tooth (detail of icing decoration); photo: David Campbell

fast firing. However, this mix still left me with the armature and body strength problems unresolved.

The solution here was comparatively straightforward – change bagasse and chaff for a long fibre material. I tested a number of organic materials and settled on hay because of its affordability and robust fibre. Hay has varying fibre lengths that are interwoven creating a kind of mesh, which imparts brilliant dry strength to the clay. Hay, with its lengthy fibres, and my long-suffering and very tolerant partner's barbecue solved the armature problem. The long fibres made little tunnels through the body. This honeycombing made clay thickness relative to the space between the tunnels; consequently solid could also be thin and the interweaving quality of hay gave plenty of avenues for the free, efficient movement of steam. The barbecue gave me an easy and foolproof force drying system. I started by using my kiln but found that it was too easy to heat the work to the point of organic burnout. Using the barbecue meant I could never over-heat the body so it didn't matter how long the pieces sat before I removed them; indeed they were often forgotten and spent the night slowly roasting.

The construction was a simple process of building, drying for stiffness and adding more layers and stiffening until the final size was achieved.

Wet to dry fit was not a problem as the shrinkage rate was reduced by the addition of hay, which acts in the same way as paper does in paper clay.

top: The clay/hay mix is built over a cardboard cylinder, then coated with an adobe-type slurry.

centre: With the cylinder still intact, the BBQ is lit and left to burn down to coals.

below: A gas torch is used to kickstart the fast drying and to burn out the cardboard cylinder. The pieces are then turned like sausages until they are very stiff to touch. They can stay on until completely dry, but I find it is best to have a little body moisture left as it helps with the fit of the engobe.



Wet and dry strength were amazing due to the varied lengths of the hay. Many of the test pieces hit the concrete floor of my shed when dry, only requiring minimal or no patching.

I found that mixing the hay and clay was best done as it was required, i.e. a handful of clay squeezed and massaged into a handful of hay. Although it was easier to pre-mix the hay and clay by stamping the mix together (a great exfoliation for the feet), there was a mould problem. Clay that was not used within a matter of days grew an abundance of mould spore that I would ill advise inhaling.

All the testing and tribulation came to fruition in *Sweet Tooth*, a ceramic installation consisting of fourteen 2 – 2.5 metre poles constructed entirely from recycled and waste clay. No kneading or wedging was done. No armature or meticulous construction was used. All were barbecue-dried and fired fast without a single loss.

All this avoidance and simplifying of process is great; however, I must emphasise I have a sound understanding of ceramic processes and materials, knowledge which could not have been bastardised if I had first not acquired it.

To view the complete *Sweet Tooth* exhibition go to www.jennyvalmadre.com.au

