

Stull Atlas

A computational ceramic glaze explorer

In 1912, Ray T. Stull mapped how silica and alumina predict glaze surfaces.
114 years later, you can explore 10,000+ real glazes on that same chart.

EXPLORE

Interactive Stull Chart — Map thousands of glazes by UMF. Filter by cone, surface, atmosphere, color. Click any point to see the full recipe.

Similarity Search — Select a glaze and find the most chemically similar recipes in the dataset.

Digitalfire Integration — Contextual references from Tony Hansen's library linked right where you need it.

CALCULATE

UMF Calculator — Enter a recipe by weight, get Unity Molecular Formula instantly. Stull limits, surface prediction, oxide analysis.

Blend Calculators — Line, triaxial, quadaxial, biaxial, radial, and space-filling designs. Full UMF for every tile.

Recipe Optimizer — Set target oxide values and constraints. Gradient descent + genetic algorithms find the best recipe.

AI Recipe Suggestions — Describe what you want in plain English: "a satin matte for cone 6 oxidation, high in magnesium, food safe." The engine recommends starting recipes with full chemistry breakdown.

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stullatlas.app/nceca

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Explorer + UMF Calc
3,000+ glazes

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Full Analysis Suite

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