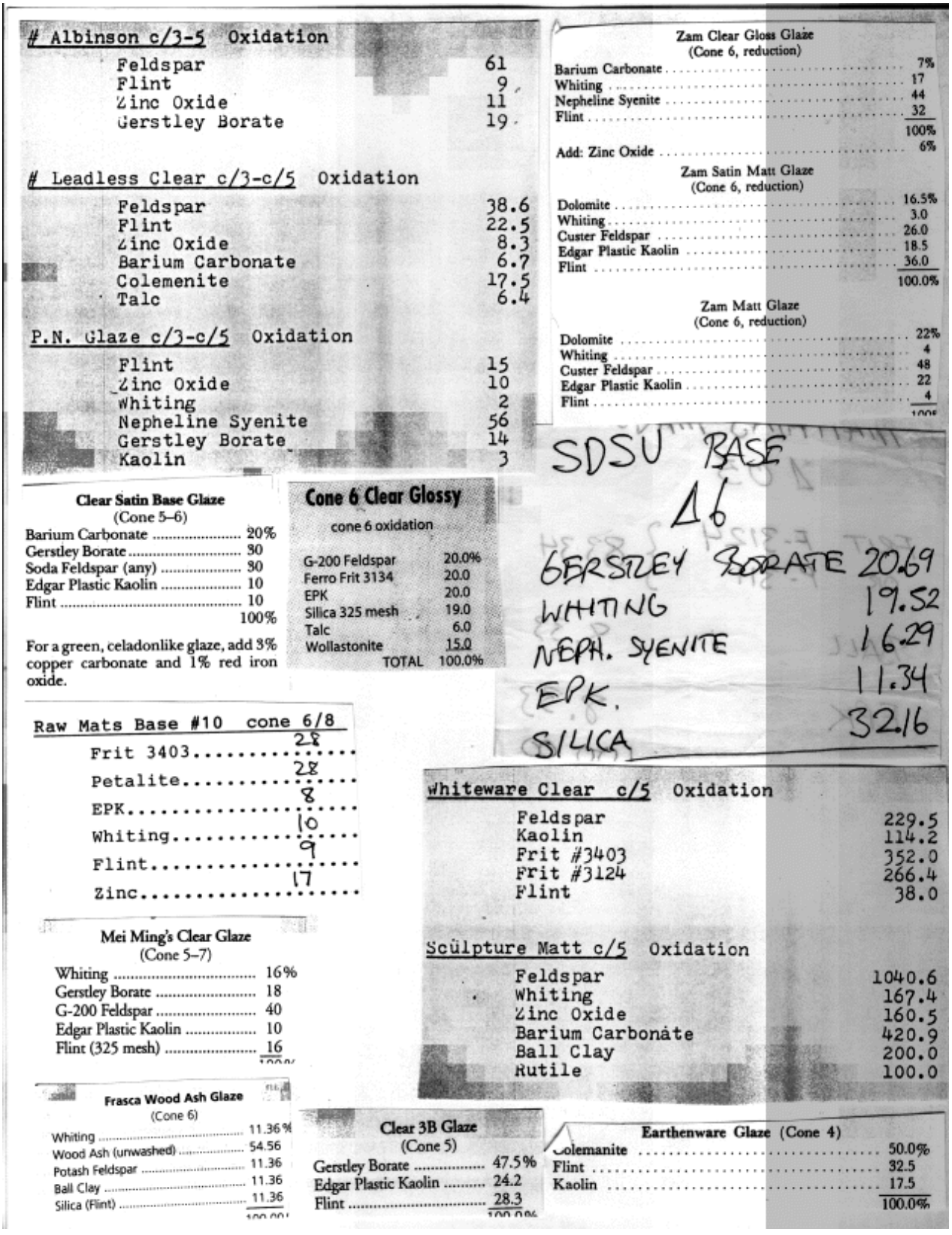
Clear Glazes – Cone 5



 # Albinson c/3-5 Oxidation

Feldspar	61
Flint	9
Zinc Oxide	11
Gerstley Borate	19

 # Leadless Clear c/3-c/5 Oxidation

Feldspar	38.6
Flint	22.5
Zinc Oxide	8.3
Barium Carbonate	6.7
Colemenite	17.5
Talc	6.4

P.N. Glaze c/3-c/5 Oxidation

Flint	15
Zinc Oxide	10
Whiting	2
Nepheline Syenite	56
Gerstley Borate	14
Kaolin	3

Zam Clear Gloss Glaze
(Cone 6, reduction)

Barium Carbonate	7%
Whiting	17
Nepheline Syenite	44
Flint	32
	100%
Add: Zinc Oxide	6%

Zam Satin Matt Glaze
(Cone 6, reduction)

Dolomite	16.5%
Whiting	3.0
Custer Feldspar	26.0
Edgar Plastic Kaolin	18.5
Flint	36.0
	100.0%

Zam Matt Glaze
(Cone 6, reduction)

Dolomite	22%
Whiting	4
Custer Feldspar	48
Edgar Plastic Kaolin	22
Flint	4

Clear Satin Base Glaze
(Cone 5–6)

Barium Carbonate	20%
Gerstley Borate	30
Soda Feldspar (any)	30
Edgar Plastic Kaolin	10
Flint	10
	100%

For a green, celadonlike glaze, add 3% copper carbonate and 1% red iron oxide.

Cone 6 Clear Glossy
cone 6 oxidation

G-200 Feldspar	20.0%
Ferro Frit 3134	20.0
EPK	20.0
Silica 325 mesh	19.0
Talc	6.0
Wollastonite	15.0
TOTAL	100.0%

SDSU BASE
Δ6

GERSTLEY BORATE	20.69
WHITING	19.52
NEPH. SYENITE	16.29
EPK.	11.34
SILICA	32.16

Raw Mats Base #10 cone 6/8

Frit 3403	28
Petalite	28
EPK	8
Whiting	10
Flint	9
Zinc	17

Whiteware Clear c/5 Oxidation

Feldspar	229.5
Kaolin	114.2
Frit #3403	352.0
Frit #3124	266.4
Flint	38.0

Sculpture Matt c/5 Oxidation

Feldspar	1040.6
Whiting	167.4
Zinc Oxide	160.5
Barium Carbonate	420.9
Ball Clay	200.0
Rutile	100.0

Mei Ming's Clear Glaze
(Cone 5–7)

Whiting	16%
Gerstley Borate	18
G-200 Feldspar	40
Edgar Plastic Kaolin	10
Flint (325 mesh)	16

Frasca Wood Ash Glaze
(Cone 6)

Whiting	11.36%
Wood Ash (unwashed)	54.56
Potash Feldspar	11.36
Ball Clay	11.36
Silica (Flint)	11.36

Clear 3B Glaze
(Cone 5)

Gerstley Borate	47.5%
Edgar Plastic Kaolin	24.2
Flint	28.3

Earthenware Glaze (Cone 4)

Colemanite	50.0%
Flint	32.5
Kaolin	17.5
	100.0%

FAVORITE Δ6 REDUCTION GLAZES C. RATTNER

IC Δ9 (XAVIER'S Δ6) SATIN

CUSTER -	40
3124 -	9
WHITING -	16
TALC -	9
EPK -	10
FLINT -	16
	100

BEAUTIFUL CREAMY - RELIABLE
GOOD W/ COLORS REDUCTION + OXIDATION

+ 1% Fe_2O_3 → SATIN CELADON

+ 4% $CuCO_3$ + 6% RUTILE → WARM JADE GREEN W/ SPECKS

+ 4% GRANULAR MnO + 4% RUTILE → CLOUDY CREAM BEIGE - YELLOW SPECKLES BROWN

+ 2% $CuCO_3$ → MOTTLED COPPER RED/GREEN

+ 3% GR MnO + 7% Fe_2O_3 → LOOKS LIKE AMBER CELADON W/ SPECKS

BASE

CC BASE Δ6

ANOTHER RELIABLE CREAMY BASE
GOOD WITH COLORS

NEPH SY -	24
DOLOMITE -	11
G. BORATE -	12
WHITING -	4
ZINC OX -	2
EPK	7
FLINT	40

+ .75 Cobalt Co_3
.5 Rutile → SOFT PURPLE BLUE BRIGHT
.5 GREEN NICKEL OX

+ 6 - 10% RUTILE → ON DARK CLAY NICE GOLDEN MUSTARDY WARM (LESS INTENSE ON WHITE CLAY)

TRY ILMENITE AND/OR GRANULAR MnO → SPECKS

FF BASE - GREAT IN BOTH OXIDATION + REDUCTION - GLOSS

BARIUM -	4
TALC -	20
WH. NG -	10
ZINC -	5
FELT P-25 -	18
EPK -	15
FLINT -	28

(A) + 2% Fe_2O_3 + 8% Titanium Dioxide - MOTTLED GOLD

(B) + 3% RUTILE, 3% Fe_2O_3, 1% TIN - TRANSPARENT STREAKS GOLD SPECKS

A + B OVERLAPPING PRODUCE - OPALESCENT

L.A. Matt c/6-c/7 Oxidation

Feldspar	1548
Flint	168
Whiting	564
Zinc Oxide	258
China Clay	462

This glaze is best when 100 grams of Ilmenite is added to give specks to the glaze.

Colors

Turquoise (muddy)	½%	Copper Carbonate
Yellow	5%	Harshaw Tin Vanadium G.S.
Red Brown	5%	Hommel Red Brown U.G. #123
Blue	5%	Harshaw Blue G.S. #5500
Green	2½%	Black Copper Oxide
Black	1%	Cobalt Oxide
	5%	Red Iron Oxide
Brown	5%	Red Iron Oxide
	2½%	Red Brown U.G.
Violet Brown	2%	Manganese Dioxide
	3%	Rutile
Blue Green	1½%	Black Copper Oxide
	5%	Turquoise G.S. #500 Harshaw
Blue Gray	1½%	Black Copper Oxide
	3%	Rutile
	1%	Cobalte

Gerstley Borate Glaze (Cone 6)

Gerstley Borate	5.07%
Whiting	5.61
Nepheline Syenite	34.94
Frit (Ferro 3134)	25.37
Ball Clay	3.64
Flint	25.37
	100.00%

033 Shiny Clear c/3-5 Oxidation

Feldspar	115.89
Whiting	20.00
Gerstley Borate	41.20
Magnesium Carbonate	15.00
Zinc Oxide	23.00
Kaolin	9.03
Flint	55.80

Pam's Soft, Shiny Glaze (Cone 6)

Whiting	19.5%
Zinc Oxide	2.5
Custer Feldspar	50.7
Edgar Plastic Kaolin	8.8
Flint	18.5
	100.0%

62 ✓ WEIGHT %

NEPHALINE SYEN		25.94	
NICK'S SILICA		29.46	
OM4		2.12	
WHITING		15.23	
F-3249	1900	4.0	13.47
F-3124	1600	7.9	13.78

Chappell's SEG 1a Glaze
(Cone 6)

Whiting	11.5%
Zinc Oxide	9.5
Nepheline Syenite	58.0
EPK (Edgar Plastic Kaolin)	19.0
Silica (Flint)	2.0
	100.0%
Add: Bentonite	2.0%

A translucent white matt. Add 1 teaspoon CMC per 100 grams glaze to wet batch.

Lewing's Zinc Base
Cone 4-6 Oxidation
furnished by Paul Lewing

Custer Feldspar	48.44%
Silica	20.45
Zinc Oxide	11.35
Gerstley Borate	10.80
EPK	4.91
Whiting	4.05
TOTAL:	100.00%

The base glaze is glossy and translucent, with a bit of a blueish cast.

Blue-green variation:
add Copper Carbonate 3.0

Purple variation:
add Manganese Dioxide 6.0
Cobalt Carbonate 1.0

Medicine-bottle blue variation:
add Cobalt Carbonate 3.0

Clear Gloss Glaze (Cone 6)

Barium Carbonate	5.82%
Colemanite	19.65
Whiting	1.57
Zinc Oxide	2.83
Kingman Feldspar	39.31
Kaolin	8.81
Flint	22.01
	100.00%

Glassy Alkaline Glaze
(Cone 6)

Gerstley Borate	1.19%
Lithium Carbonate	3.38
Strontium Carbonate	9.30
Frit 3110 (Ferro)	21.12
Kona F-4 Feldspar	46.34
Flint	18.67
	100.00%
Add: Bentonite	3.00%

Bird's Egg Base cone 5/8

Nephy Sy	58
Flint	2
Lithium carb	5
Bentonite	2
Barium carb	35

JR. HANDBUILDING • SPRING 88 (assembled by anne currier)

C/7 OXIDATION GLAZES

1.) SEMI-GLOSS	2.) BRIGHT CRACKLE	3.) OPAQUE WHITE	4.) SHINY TRANSPAR
35 CORNWALL STONE	13.0 BARIUM CARB	36.4 CUSTER	45 CUSTER
10 GERSTLEY BORATE	29.2 NEPH. SY.	21.3 FLINT	15 WHITING
10 ZIRCOPAX	33.2 FLINT	18.2 WHITING	20 FLINT
15 WHITING	13.0 WHITING	9.1 BALL CLAY	10 BALL
15 BALL CLAY	4.8 STRONTIUM CARB	9.0 ZIRCOPAX	
15 FLINT	4.2 EPK		
	1.3 MAGNESIUM CARB		
	1.3 ZINC		

5.) TRANSPARENT GLOSS	6.) SEMI-GLOSS (?)	7.) SEMI-MATT	8.) SATIN to DR
44 NEPHELINE SYENITE	30 CUSTER	40 CUSTER	52 CUSTER SP.
24 FLINT	10 GERSTLEY BORATE	9 FRIT 3124	19 WHITING
20 GERSTLEY BORATE	10 WHITING	9 TALC	14 EPK
4 BENTONITE	10 BARIUM CARB	16 WHITING	9 ZINC OX
3 ZINC OX	10 BALL CLAY	10 BALL CLAY	6 FLINT
6 BARIUM CARB.	30 FLINT	16 FLINT	
2 WHITING			

9.) SATIN WHITE	10.) SATIN	11.) BIRD'S EGG	12.) ELLEN'S HALLOW
33.7 FLINT	50 NEPH. SY.	58 NEPH. SY.	53 CUSTER SP.
30.5 NEPH. SY.	16 WHITING	2 FLINT	22 WHITING
12.7 EPK	12 BALL CLAY	5 LITHIUM CARB	16 BARIUM CAR
10.3 WHITING	8 ZINC OX	2 BENTONITE	9 BALL CLAY
5.1 MAGNESIUM CARB	8 DOLOMITE	35 FRIT 3247	5 YELLOW OCHR
4.4 BARIUM CARB (3.3 ZINC OX)			2 RUTILE

13.) PINK-BLUE	14.) SEMI-GLOSS CLEAR	15.) JCVC SLATE	16.) SEMI-GLOSS
35 NEPH. SY.	37 KONA F-4	40 ALBANY SLIP	47 KONA F-4
40 BARIUM CARB.	23 FLINT	20 WOLLASTONITE	12 GERSTLEY BOI
15 ZINC OX	20 EPK	15 NEPH. SY.	7 DOLOMITE
5 EPK	12 WHITING	25 BALL CLAY	14 TALC
5 FLINT	6 TALC	6 COBALT CARB	15 FLINT
2 BENTONITE	2 ZINC OX.	OR	5 BALL CLAY.
2 BLACK NICKEL OX		MASON'S BEST BLACK	

OXIDE ADDITIONS:

1. 8 TITANIUM + 4 COPPER
2. 8 TITANIUM + 2 MANGANESE CARB.
3. 8 TITANIUM + .25 COBALT CARB.
4. .5 - 5% COBALT
5. 2 - 10% RED IRON OX
6. 10% ANY OF THE COMMERCIAL STAINS
7. 3 - 7% COPPER CARB.
8. 3 COPPER CARB + 3 MANGANESE CARB

TRY DIFFERENT COMBINATIONS OF OXIDES / STAINS

- MOST OF THESE GLAZES WORK VERY WELL IN REDUCTION FIRINGS.
- MANY HAVE A FIRING RANGE THAN GOES TO Δ10 IN OXIDATION REDUCTION, WOOD, SALT & SODA FIRINGS.

Rob's/G.A. Blend Glaze
(Cone 6)

Gerstley Borate	2.9%
Lithium Carbonate	1.7
Strontium Carbonate	9.3
Whiting	8.4
Cornwall Stone	34.6
Frit 3110 (Ferro)	10.6
Kona F-4 Feldspar	23.2
Flint	9.3
	100.0%
Add: Bentonite	3.0%

Crystalline Glaze
(Cone 6)

Alkaline Frit	*40%*
Titanium Oxide	*6*
Zinc Oxide	*25*
Bentonite	*4*
Flint	*25*
	100%

I am firing to 1220°C (2196°F) in an electric kiln and holding for 10 minutes, then dropping down to 1180°C (2124°F) and holding for 3 hours. Is there a system of altering a recipe for Cone 9 down to Cone 6? —L.B.

Matt "B" Glaze
(Cone 6)

Lithium Carbonate	2.7%
Strontium Carbonate	26.5
Nepheline Syenite	57.5
Kentucky Ball Clay (OM 4)	6.2
Flint	7.1
	100.0%
Add: Bentonite	3.0%

Andy Martin's Glaze
(Cone 6)

Barium Carbonate	32%
Strontium Carbonate	18
Whiting	3
Frit 3110 (Ferro)	6
Nepheline Syenite	30
6 Tile Clay	3
Bentonite	4
Flint	4
	100%

For chartreuse, add 0.5% chrome oxide; for turquoise, add 4% copper carbonate; and for dark blue, add 3% copper carbonate plus 0.25% cobalt carbonate.

V.C. Transparent Gloss cone 5/6 ox/

Nephy Sy	56
Whiting	9
Talc	6
Flint	23
EPK	6

From Geof Wheeler:

Cone 6 – 10 Matte "B"

Nepheline Syenite	57.5
Strontium Carbonate	26.5
OM-4 Ball Clay	6.2
Flint	7.1
Lithium Carbonate	2.7
	100.0

add bentonite 3%

Cone 6 – 10 Rob/G.A.Blend

Cornwall Stone	34.6
Whiting	8.4
Gerstley Borate	2.9
Strontium Carbonate	9.3
F-4 Feldspar	23.2
Frit 3110	10.6
Flint	9.3
Lithium Carbonate	1.7
	100.0

add bentonite 3 %

Colors for the above recipe:

Warm Pink	5% Coral stain 3% Rutile
Pink Pink	5% Shell Pink Stain 2% Coral Stain
Eggplant	6% Manganese Carbonate .5% Cobalt Carbonate
Water Blue	1% Copper Carbonate
Yellow	5% Zirconium Yellow Stain 5% Vanadium Yellow Stain
Dark Green	2% Nickel Oxide 3% Copper Carbonate
Orange	5% Orange Stain 5% Zirconium Yellow Stain
Maroon	5% Coral Stain 3% Manganese Carbonate
Chartreuse	5% Victoria Green Stain 5% Chartreuse Stain

Clear Cone 6 Electric
(Can bubble and pinhole if seriously over-fired)

Ferro Frit 3195	70.0
EPK	8.0
Wollastonite	10.0
Silica	12.0
TOTAL	100.0%
add Epsom salts	0.25
Bentonite	2.0

LNS Matt Glaze
(Cone 8)

Lithium Carbonate	6.8%
Whiting	13.8
Nepheline Syenite	63.4
Kaolin	16.0
	100.0%

Adriana's White Crawl Glaze
(Cone 6)

Bone Ash	80 %
Cryolite	20
	100 %

Adriana's Crawl Glaze
(Cone 6)

Barium Carbonate	0.43 %
Bone Ash	77.25
Cryolite	13.73
Kona F-4 Feldspar	8.59
	100.00 %

Color variations are achieved with the addition of oxides and/or stains.

AG13 Base Glaze
(Cone 6)

Washed Wood Ash	44 %
Whiting	21
Potash Feldspar	21
Clay Body (any)	14
	100 %

Lana's Lichen Glaze
(Cone 6)

Magnesium Carbonate	22%
Nepheline Syenite	60
Ball Clay	18
	100%

A white glaze. To cut shine add 5% increments of ball clay, kaolin or alumina. Apply thick and thin to test different results.

Mark Bell's Lichen Glaze
(Cone 6–8)

Magnesium Carbonate	31%
Talc	8
Zinc Oxide	6
Frit 25 (Pemco)	6
Soda Feldspar	30
Kaolin	19
	100%

New Soft, Waxy Transparent Glaze Cone 6 Oxidation

Zakin recently revised hist first "soft waxy transparent glaze" to reduce crazing with this new formula:

Ball Clay	8%
Silica	15
Gerstley Borate	20
Nephelene Syenite	38
Titanium	2
Wollastonite	14
Zinc	3

Long Beach Guide?

CONE 5 STAINS

1) Iron - 1
   Mang Diox - 1
2) Pot Dich - 1
   Gr. Nickel - 1
3) Pot Dich - 1
   Cobalt Carb - 1
4) Yellow Ochre - 1
   Cob Carb - 1/2
   Gr. Nickel - 1/2
5) Yellow Ochre - 1
   Cob Carb - 1/2
6) Yellow Ochre - 1
   Chrome 1/2
7) Chrome - 1
   Cob Carb -1/2
8) Rutile - 1
9) Rutile - 1
   Iron - 1
10) Rutile - 1
    Iron - 1/2
    Alumina - 1
    Zircopax - 2
11) Alumina - 1
    Gr. Nickel - 1
    Pot Dich - 1
    Cob Carb - 1
12) Cob Carb - 2
    Mang Diox - 1/2
13) Cob Carb - 1/2
    Calcium - 1
    Zircopax - 1

LB1

CONE 5 GLAZES

LB3

Clear

K_2O .306 | Al_2O_3 .462 | SiO_2 2.95 | MW 354.6
Na_2O .641 | B_2O_3 .778

36) ~~Ferro Frit 3269~~---100
EPK----------20
Silica----------6
Bentonite---------1.5%
~~Epsom Salt---------.5%~~

MIX W/ 3225-60 3269-40

Nurses Shoe White

38) SiO_2----------270 13
EPK----------100 5
~~G-200~~ ~~Spar~~----------850 41
Colemanite------400 19
$BaCo_3$----------100 5
Talc----------150 7
Zircopax--------190 9
2060 /99

.643 | Al_2O_3 .094 | SiO_2 3.03 | MW 260.6 | 1900°
.293 | B_2O_3 .092

PV White

Pv Clay------50
Colemanite---50
Zircopax-----50

Lazy BEACH

LB1

CONE 5 GLAZES

1) SiO_2-----10
EPK------20
~~Nephsyn--25~~
$LiCO_3$----15
~~3110~~-----15
$CACO_3$----15
100

2) T.M.H.)
Nephsyn-----65.7
Dolomite----12.4
Ball Clay----4.1
Bentonite----2.5
Albany-------8.7

Purple - Mang 4%
CoD 1/2%
Toast Orange - Rutile 3%
Green - Iron 4.5%

3) ~~SiO_2---------25~~
~~Pot Spar-----40~~
~~Gerst Bor----30~~
~~PbBisilicate-25~~
~~White Pb-----25~~
~~$CaCO_3$--------15~~
~~$BaCO_3$--------15~~
~~SnO----------15~~

4) SiO_2------27
EPK-------10
Pot Spar--850
Gerst Bor-400
$BaCO_3$-----100
Talc------150
Zircopax--190 (for cream white
~~Rutile---95.4~~

5) SiO_2------24
Pot Spar--40
Gerst Bor-20
$CaCO_3$------2

6) SiO_2------10
Ball------13
Nephsyn--100
$LiCO_3$------8
$BaCO_3$-----36
167

Chun Blue:

Spar--------------------200
Nepheline Syenite-------280
EPK---------------------20
Silica------------------250
Whiting-----------------30
Gerstley Borate---------100
Dolomite----------------100
Zinc Oxide--------------20
Barium Carbonate--------50
Tin Oxide---------------30
1280 grams

7) SiO_2-------5
EPK-------10
Gerst Bor-20
Pot Spar--45
$CaCO_3$------5
$BaCO_3$-----15

8) SiO_2------55
EPK-------25
Neph Syn-150
$CaCO_3$-----60
ZNO-------10
300

SiO_2-------30
EPK---------3
~~Neph Syn---40~~
$CaCO_3$------10
Dolomite---10
$BaCO_3$-------7
~~a) Fe--------2~~

10) SiO_2-------18
EPK---------5
Ball--------4
~~Pot Spar---40~~
$CaCO_3$-------6
$BaCO_3$--------8
Talc--------2
ZNO---------6
89

11) SiO_2-------24
EPK---------10
Pot Spar---40
$CaCO_3$------10
Dolomite---15

13) Colmanite---54.6
$CaCo_3$-------26.5
Spar--------83.4
EPK---------50.5
S_1O_2-------103.2

14) C-3-4 Base #1
Soda Spar---46.8
S_1O_2--------20.0
EPK----------2.5
$CaCo_3$---------8.0
Colmanite---13.7
Zinc----------4.0
Dolomite-----6.0

Colorants
a) 5% Copper Co_3
b) 10% Iron
c) 6% Pot Dich
d) 7% Cobalt
e) 3% Iron
f) 9% Cu Ox
g) 4% Albany clay
5% Raw umber
h) 3 1/2% yellow ochre
8% Rutile

15) C-3-4 Base #2
(Transparent Colmanite)
Soda Spar---44.0
Colmanite---18.0
$BaCo_3$-------18.5
$CaCo_3$--------7.2
EPK----------2.4
S_1O_2--------10.5

Colorants
a) 20% Iron
b) 6% Pot Dich
c) 5% Mang, 5% Co
d) 7% Rutile
e) 7% Copper Carb
f) 5% Ilmenite
g) 10% Lithium

16) 3-5 Bristol
Spar---58.7
$CaCo_3$--14.1
EPK----11.5
S_1O_2----4.2
Zinc----6.5
95

17) C-3-5
Talc------12.6 → 3.6
Neph Syn--92.4 → 26.6
Zinc------38.4 → 11.
EPK-------35.7 → 10.3
Frit 3124-168.6 → 48.5
347.7 → 100

18) C-3-5 Stony Matt
Spar------113.4 → 57
Zinc Ox----19.2 → 9.7
$BaCo_3$-----35.1 → 17.6
EPK--------18.6 → 9.4
S_1O_2-------11.8 → 6
~~Rutile-------1.0~~
198.1

Colorants
a) 4% Copper Carb
2% Chrome, 2% Fe
b) 2% Iron
c) 2% Rutile, 2% Fe
d) 3% Pot Dich
e) 3% Nickel
f) 4% Cobalt Carb
g) 4% Tin
h) 3% Raw umber
i) 3% Yellow Ochre
j) 2% Mang, 2% Ilmenite
k) 3% Iron, 2% Ilmenite
l) 4% Lithium, 4% Albany, 2% Iron,
2% Ilmenite, 2% Pot Dich
m) 2% Soda ash, 2% Rutile, 2% Ochre,
2% Ilmenite

19) C-3-5
Neph Syn---763.5 → 50.9
$CaCo_3$------292.5 → 19.5
Zinc--------39.0 → 2.6
EPK--------135.0 → 9.
S_1O_2-------270.0 → 18.
1500 → 100

Colorants
a) 1/2% Co
b) 1/2% Chrome
c) 1/2% Chrome, 2% Fe
d) 1/4% Chrome, 1% Cu

20) C-3-5
Neph Syn---46.7
$CaCo_3$------18.2
Zinc--------14.8
~~MgCarb---------.2~~
EPK----------1.3
S_1O_2----------19.0
100.2

21) C-3-5 Barium Matt
Spar---60.9
$CaCo_3$--13.2
$BaCo_3$--25.9
100

G-200
LB 28

LB 32 DS
P.V. 50
G.B. 50

LB 33 DS
P.V. 50
G.B. 50
Titanium Dox 10

LB29

Clear Variation 1
(Cone 6?)

Custer Feldspar	15.0%
Whiting	15.6
Frit 3134 (Ferro)	10.7
Edgar Plastic Kaolin	23.9
Flint	34.8
	100.0%

Clear Variation 2
(Cone 6?)

Custer Feldspar	7.5%
Whiting	13.0
Frit 3134 (Ferro)	17.7
Edgar Plastic Kaolin	27.1
Flint	34.7
	100.0%

In the process of inventing cones, Seger did extensive testing, using the four ingredients that are in your glaze in order to find the most fusible combination. The best combination became Cone 4, because it contained 4.0 silica. Your recipe is very close to the formula for making a Cone 4. That might lead you to believe that it would work at Cone 5, but there are usually four or five cones between when a mixture first melts, and when it is mature enough to be called a glaze. If I adjust the unity formula to the same as a Cone 4 (0.3 $KNaO$, 0.7 CaO, 0.5 Al_2O_3, 9.0 SiO_2) then your recipe becomes:

Clear Variation 3
(Cone 6?)

Whiting	17.5%
Custer Feldspar	48.8
Edgar Plastic Kaolin	12.1
Flint	21.6
	100.0%

Satin Matt Glaze
(Cone 6)

Dolomite	20%
Cornwall Stone	60
Kaolin (any except EPK)	20
	100%

Satin Matt Glaze
(Cone 6)

Whiting	17.0%
Custer Feldspar	47.0
Kaolin (any except EPK)	5.5
Flint	30.5
	100.0%
Add: Calcined Zinc Oxide	34.8%

Satin Matt Glaze
(Cone 6–8)

Talc	2.1%
Whiting	11.4
Feldspar (Kingman or Custer)	67.7
Kaolin (any except EPK)	18.4
Flint	0.4
	100.0%
Add: Zinc Oxide	6.7%

Cornwall Clear: Cone 6

Cornwall stone	50%
Gerstley borate	40
Flint	10

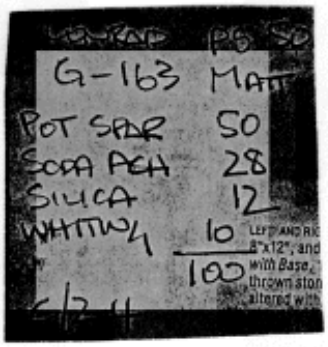
Clear Glaze
(Cone 6)

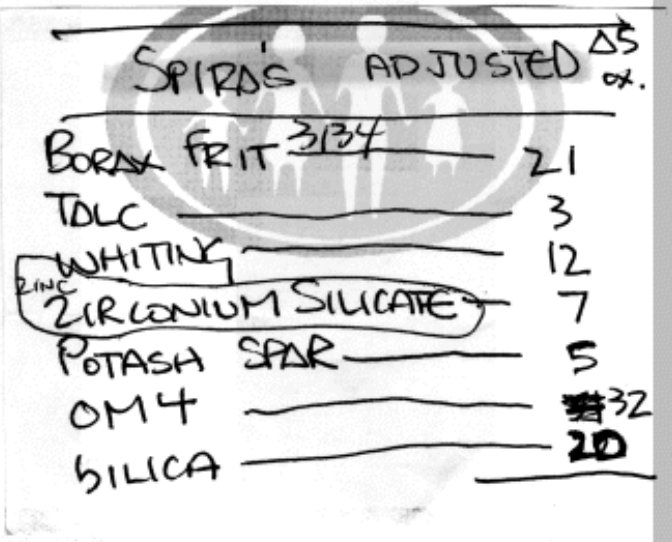
Dolomite	6.60%
Gerstley Borate	21.09
Whiting	2.24
Soda Feldspar	48.77
Flint	21.30
	100.00%
Add: Bentonite	0.96%

Mix to a water-thin consistency; brush over carved, Dark Slip areas.

Super-Dry Matt Glaze
(Cone 6)

Gerstley Borate	5%
Lithium Carbonate	6
Strontium Carbonate	15
Nepheline Syenite	60
Calcined Clay	8
Flint	6





LaMatte Glaze (Cone 5-6)

Whiting	21%
Custer Feldspar	56
Edgar Plastic Kaolin	17
Flint	6
	100%
Add: Zinc Oxide	9%

For best results apply this glaze thinly with no overlaps.

Jack's Eggshell Matt Glaze (Cone 6)

Dolomite	10%
Gerstley Borate	10
Whiting	14
Custer Feldspar	47
Edgar Plastic Kaolin	19
	100%

This matt, off-white glaze is fairly opaque and responds well to the addition of varibus colorants.

Speckled Semigloss Glaze (Cone 6)

Whiting	14.0%
Nepheline Syenite	31.0
Kaolin	20.0
Flint	35.0
	100.0%
Add: Zinc Oxide	18.0%
Granular Rutile	3.5%

Transparent Glossy Glaze (Cone 6)

Barium Carbonate	6.5%
Gerstley Borate	21.0
Whiting	1.5
Custer Feldspar	44.8
Edgar Plastic Kaolin	1.0
Flint	25.2
	100.0%
Add: Zinc Oxide	3.3%

This transparent glaze is milky where thick.

Hal's Clear Crackle Glaze (Cone 6-8)

Borax	1%
Soda Ash	28
Whiting	10
Kona Feldspar (F-4)	50
Flint	11
	100%

Clear Gloss Glaze (Cone 6)

Whiting	18.5%
Wood Ash	9.9
Custer Feldspar	50.9
Kaolin	15.2
Flint	5.5
	100.0%
Add: Zinc Oxide	8.5%

Shiny Colorful Glaze (Cone 3-6)

Barium Carbonate	6%
Gerstley Borate	20
Whiting	2
Custer Feldspar	45
Tennessee Ball Clay	2
Flint	25
	100%
Add: Zinc Oxide	8%

Satin Matt Glaze (Cone 6)

Whiting	17%
Custer Feldspar	47
Edgar Plastic Kaolin	6
Flint	30
	100%
Add: Zinc Oxide (calcined)	35%

Smooth and Stony Glaze (Cone 6)

Barium Carbonate	12.6%
Magnesium Carbonate	2.6
Whiting	9.2
Nepheline Syenite	41.1
Kaolin	8.9
Flint	25.6
	100.0%
Add: Zinc Oxide	3.9%

Shino Glaze

(Cone 6, reduction)

Soda Ash	10 %
Spodumene	40
Nepheline Syenite	40
Edgar Plastic Kaolin	10
	100 %

Apply very thinly to give an almost salt-glazed look in reduction. Tends to be a bit bland in oxidation, but an addition of 4% rutile seems to warm it up a bit.

Frosty White Speckle Glaze Base

2192°F - 2228°F (cone 5 to 6)

Frosty White Speckle Base Variation 1 on porcelain

Nepheline Syenite	60.0%
Ferro Frit 3134	20.0
Whiting	18.0
Bentonite	2.0
TOTAL	100.0%

Smooth White Glaze

2192°F - 2300°F (cone 5 to 8)

Smooth White Glaze on porcelain

Potash Feldspar	37.0%
Whiting	15.0
China Clay (EPK)	8.0
Silica	37.0
Bentonite	3.0
TOTAL	100.0%

In oxidation, a smooth white glaze. In reduction, a pale blue-grey stiff glaze.

Speckled Transparent Glaze

2192°F - 2228°F (cone 5 to 6)

Speckled Transparent Glaze on stoneware (l) and white clay (r)

Nepheline Syenite	25.0%
Ferro Frit 3134	35.0
China Clay (EPK)	20.0
Silica	20.0
TOTAL	100.0%
add Rutile	7.0%

A bright, transparent glaze with iron speckles. It gives a blue chun effect over a dark clay body.

Wide-firing Base Glaze

2192°F - 2300°F (cone 5 to 8)

Nepheline Syenite	73.0%
Whiting	4.0
Dolomite	5.0
Zinc Oxide	3.0
Bentonite	5.0
Silica	10.0
TOTAL	100.0%

A semi-matte wide-firing base glaze. In oxidation, a white opaque color with white speckles. In reduction, a semi-clear crackle glaze. A sound base glaze with which many oxides will work over a wide temperature range.

SDSU Texture/Crawl Glaze

(Cone 6, oxidation or reduction)

Magnesium Carbonate	25 %
Nepheline Syenite	70
Kentucky Ball Clay (OM 4)	5
	100 %

Richard Burkett posted this glaze on Clayart several years ago. It is very sensitive to thickness. Use by itself or over a contrasting glaze. Colorants can be added.

Marilee's Lava Glaze

(Cone 6, oxidation or reduction)

Whiting	23.91 %
Custer Feldspar	49.73
Edgar Plastic Kaolin	13.18
Flint	13.18
	100.00 %
Add: Titanium Dioxide	11.29 %
Silicon Carbide	0.34 %

LIFYING GLAZES

by Sumi von Dassow

The following simplified Cone 6 oxidation glazes provide a starting point for replacing more complicated bases.

3A1/3A2 Clear Gloss

Spodumene	35.0%
SGP-1 (ball clay)	12.0
Whiting	17.0
Flint	19.0
Ferro Frit 3195 or 3134	17.0
	100.0%

Of the tests without Gerstley Borate, this was the clearest. Frit 3195 yielded a slightly clearer glaze, but seemed to cause more settling than Frit 3134. Try adding 2-3% bentonite. Add oxides or 10% commercial stain for hard-to-get colors.

4A1/4A2 Semi-gloss Clear

Cornwall Stone	35.0%
SGP-1 (ball clay)	12.0
Whiting	17.0
Flint	19.0
Ferro Frit 3134 or 3195	17.0
	100.0%

The Clear Gloss note regarding the frits applies to this variation as well. It doesn't settle as badly, so unless a perfectly clear glaze is needed, this one might be preferable. Add oxides or 10% commercial stain for hard-to-get colors.

8H Semi-gloss Clear

Cornwall Stone	35.0%
SGP-1(ball clay)	12.0
Wollastonite	36.0
Magnesium Carbonate	8.5
Lithium Carbonate	8.5
	100.0%

Add oxides or 10% commercial stain for hard-to-get colors.

render it ineffective.) Further, I wanted to use it as a base for painting with commercial stains, as in majolica (many colors require a high calcium content in the glaze). Finally, the glaze should consist of relatively few ingredients, stay in suspension well, form a smooth and not too fragile coat on the bisqueware and not run too much when fired.

For a clear glaze, my main goal was that it would not become milky when applied thickly or on a dark clay (many old clear glaze recipes based on large amounts of Gerstley borate displayed this characteristic). Also, I wanted a clear glaze with a high enough calcium content that I could use it as a base with commercial stains to achieve the red colors students so often requested. Finally, as with the white, I wished to avoid application and suspension problems. This presented a certain conflict of interest, since avoiding Gerstley borate often means relying on frits, which may settle badly when used in large amounts.

Finding a Solution

Instead of turning to recipe books and trying dozens of different formulas, I decided to try a series of tests suggested by Robin Hopper in his book *The Ceramic Spectrum*, specifically the "Flux Variation" chapter. The following basic recipes can be varied using different feldspars and fluxes, some of which are bound to result in usable glazes.

Hopper Flux Variation Base

Feldspar	35%
Ball Clay	12
Whiting	17
Flint	19
Flux	17
	100%

I decided to further simplify this formula with one that substitutes wollastonite for the whiting and flint. Though wollastonite is more expensive than whiting or flint, the cost of glaze materials is usually negligible compared with the time involved in mixing up a glaze. If such a simple substitution would produce a usable glaze, it would be worthwhile.

Hopper Flux Variation Base II

Feldspar	35%
Ball Clay	12
Wollastonite	36
Flux	17
	100%

Sumi von Dassow teaches pottery at the Washington Heights Center for the Traditional Arts in Lakewood, Colorado. Visit her web site at www.well.com/~sumi.

Table 1. A series of 24 tests using the two flux variation base recipes with four feldspars (Custer, Plastic Vitrox Clay (PVC), spodumene, and Cornwall stone) and 6 fluxes (dolomite, lithium carbonate, pumice, talc, magnesium carbonate and Gerstley borate. These 24 tests were repeated using wollastonite as a substitute for the whiting and flint. The wollastonite tests would are rows 5 through 8 not shown due to space limitations.)

1A		1B		1C		1D		1E		1F	
Custer Spar	35	Custer Spar	35	Custer Spar	35	Custer Spar	35	Custer Spar	35	Custer Spar	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	17	Dolomite	17	Lithium Carb.	17	Pumice	17	Talc	17	Magnesium Carb.	17
2A		**2B**		**2C**		**2D**		**2E**		**2F**	
PVC	35	PVC	35	PVC	35	PVC	35	PVC	35	PVC	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	17	Dolomite	17	Lithium Carb.	17	Pumice	17	Talc	17	Magnesium Carb.	17
3A		**3B**		**3C**		**3D**		**3E**		**3F**	
Spodumene	35	Spodumene	35	Spodumene	35	Spodumene	35	Spodumene	35	Spodumene	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	17	Dolomite	17	Lithium Carb.	17	Pumice	17	Talc	17	Magnesium Carb.	17
4A		**4B**		**4C**		**4D**		**4E**		**4F**	
Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	17	Dolomite	17	Lithium Carb.	17	Pumice	17	Talc	17	Magnesium Carb.	17

TABLE 1

1 + 1 = 2 3 + 1 = 4 3 + 2 = 5 3 + 3 = 6

SIMPLIFYING GLAZES

Table 2. Combining promising-looking glazes from Table 1, I created new mixtures that contained either two feldspars (pink) or two fluxes (blue).

TABLE 2

9B		9E		12B		12E	
Custer Spar	17.5	Custer Spar	17.5	Custer Spar	17.5	Custer Spar	17.5
Spodumene	17.5	Spodumene	17.5	Spodumene	17.5	Spodumene	17.5
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Dolomite	17	Talc	17
Dolomite	17	Talc	17				
10B		**10E**		**11B**		**11E**	
PVC	17.5	PVC	17.5	PVC	17.5	PVC	17.5
Cornwall Stone	17.5	Cornwall Stone	17.5	Cornwall Stone	17.5	Cornwall Stone	17.5
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Dolomite	17	Talc	17
Dolomite	17	Talc	17				
1G		**1H**		**2G**		**2H**	
Custer Spar	35	Custer Spar	35	PVC	35	PVC	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	8.5	Lithium Carb.	8.5	Gerstley Borate	8.5	Lithium Carb.	8.5
Pumice	8.5	Magnesium Carb	8.5	Pumice	8.5	Magnesium Carb	8.5
3G		**3H**		**4G**		**4H**	
Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Whiting	17	Whiting	17
Flint	19	Flint	19	Flint	19	Flint	19
Gerstley Borate	8.5	Lithium Carb.	8.5	Gerstley Borate	8.5	Lithium Carb.	8.5
Pumice	8.5	Magnesium Carb	8.5	Pumice	8.5	Magnesium Carb	8.5

Table 3. In a third series of 16 tests, I substituted the Ferro frits 3134 and 3195 for Gerstley borate in some of the more promising mixtures (in purple). By using the Gerstley borate mixtures as a sort of scientific control group, I was able to determine that neither frit is a perfect substitute, yeilding a milkier glaze. This is probably due to their silica content, and would suggest further tests with reduced silica. I tried some new combinations of the above ingredients that seemed potentially interesting (shown in yellow).

TABLE 3

3A1		3A2		8A1		8A2	
Spodumene	35	Spodumene	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Ferro Frit 3134	17	Ferro Frit 3195	17
Ferro Frit 3134	17	Ferro Frit 3195	17				
4G1		**4G2**		**8K1**		**8K2**	
Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Lithium Carb.	8.5	Lithium Carb.	8.5
Ferro Frit 3134	8	Ferro Frit 3195	8.5	Ferro Frit 3134	8.5	Ferro Frit 3195	8.5
Pumice	8	Pumice	8.5				
4K1		**4K2**		**8L1**		**8L2**	
Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Pumice	8.5	Pumice	8.5
Lithium Carb.	8.5	Lithium Carb.	8.5	Ferro Frit 3134	8.5	Ferro Frit 3195	8.5
Ferro Frit 3134	8.5	Ferro Frit 3195	8.5				
4L1		**4L2**		**4J**		**8J**	
Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35	Cornwall Stone	35
SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12	SPG-1 (ball clay)	12
Whiting	17	Whiting	17	Wollastonite	36	Wollastonite	36
Flint	19	Flint	19	Lithium Carb.	8.5	Lithium Carb.	8.5
Pumice	8.5	Pumice	8.5	Pumice	8.5	Pumice	8.5
Ferro Frit 3134	8.5	Ferro Frit 3195	8.5				

Observations

In the first series of tests (see Table 1), I observed suspension and application characteristics as follows:

- Magnesium carbonate, PVC, pumice, Custer feldspar, Gerstley borate and, to some extent Cornwall Stone, seemed to aid suspension.
- Wollastonite, dolomite, talc, lithium carbonate and spodumene seemed to increase settling.
- All the mixtures were easy to apply by dipping.
- Magnesium carbonate seemed to promote a powdery glaze coat susceptible to being brushed off.

More Testing

In a second series of tests (Table 2), I decided to match suspension-promoting ingredients with those that settled rapidly, and made 24 combinations each consisting of two of the original 48 glazes. Each new mixture then had either two feldspars or two fluxes. For example, I paired Gerstley borate with pumice, and lithium carbonate with magnesium carbonate (these pairings were a personal preference out of the 84 possible combinations). Obviously, not every possible combination was made!

In a third series of tests (Table 3), I substituted the Ferro frits 3134 and 3195 for Gerstley borate in some of the more promising mixtures. By using the Gerstley borate mixtures as a sort of scientific control group, I could determine that the frit mixtures yielded a milkier glaze, and would suggest further tests with reduced silica. I also tried some more combinations of the above ingredients that seemed potentially interesting.

Conclusions

Not surprisingly, quite a few of the 88 tests yielded promising results. I've used some as glazes and am beginning the process of replacing the base of some of my old complicated recipes with new formulas. It will be interesting to examine and compare these recipes and observe the effect of changing one or two materials.

Δ4/5/6 OXIDATION GLAZES.

105 GLAZES

RB 1	C4
BARIUM C	7.1
DOLO	6.9
WHITING	10.-
ZINC OX	8.9
CUSTER	26.10
EPK	8.0
ZIRCOPAX	17.20
FLINT	15.80

RB 2	C4
MAG. CARB	2.8
WOLLAST.	28.4
H14	11.1
CUSTER	28.-
EPK	29.6
US 325	5.1

RB 3	C4
BARIUM C.	5.-
DOLO	6
WHITING	11
ZINC	8
CUSTER	28
EPK	15
N98	27

RB 4	C4
MAG CARB	2.7
WOLLASTONITE	7.6
ZINC	4.1
H 14	32.3
CUSTER	9.4
EPK	17.5
N 98	26.4

RB 5	C4
GERSTLEY	50
EPK	15
NS 325	35

RB 6	Δ6
MAG CARB	13.6
ZINC	12.9
NS	35.4
EPK	25
US 325	35.6

RB 7	Δ6
BARIUM C.	13.4
LITH. C.	1.3
MAG. C.	1.3
STRONT. C.	5.-
WHITING	13.4
CUSTER	37.2
EPK	4.3
US 325	24.1

RB 8	Δ6
LITH. C.	8.5
MAG C.	9.-
STRONT. C.	14.3
ALUM. HYDRATE	5
EPK	16.7
US 325	46.5

RB 9	Δ6
WHITING	28.6
CUSTER	39.7
EPK	13.8
US 325	17.9

RB 10	Δ6
LITH. C.	16
WHITING	16.8
ZINC	17.8
CUSTER	9.4
EPK	31.4
US 325	23.-

RB 11	Δ6
LITH. C.	5.2
WHITING	5.5
ZINC	10.7
CUSTER	49.2
EPK	15.4
US 325	16.-

RB 12	Δ6
LITH. C.	5.1
WHITING	6.-
ZINC	20.9
EPK	20.7
TITANIUM AOX	10.-
US 325	36.5

104/105 47/48/141

C 4-6 OXIDATION GLAZES

RB 13		RB 14		RB 15	
STRONT. C.	12.6	LITH. C.	8.6	MAG CARB	2.3
ZINC	25.8	STRONT. C.	3.9	WOLLASTONITE	23.7
CUSTER	34.9	ZINC	18.7	CUSTER	32.6
EPK	4.1	EPK	21.1	US 325	42.1
US 325	22.6	TITANIUM DIOX	6.2	FRIT	2.7
		US 325	41.5		

RB 16		RB 17		RB 18	Δ5
STRONT. C.	16.6	WHITING	10.6	MAG CARB.	2.7
ZINC	9.7	WOLLASTONITE	13.9	WOLLAST.	22.6
CUSTER	34.1	ZINC	10.2	P-54	10.7
EPK	11.8	CUSTER	47.2	CUSTER	28.7
US 325	27.8	EPK	18.1	EPK 29.5	18.7
				CALCINE EPK	11.8
				US 325	5.5

RB 19	Δ5	RB 20	Δ6	RB 21	Δ6
LITH. C.	9.8	LITH. CARB	9.7	LITH. C.	23.6
MAG. CARB.	10.1	MAG. CARB	10.7	MAG. C.	17.8
WHITING	10.5	WHITING	10.3	EPK	20.5
EPK 23.9	16.8	EPK 25.4	17.8	US 325	38.1
CALCINED EPK	7.1	CALCINED EPK	7.6		
SILICA 325	45.7	US 325	45.3		

RB 22		RB 23		RB 24	
		GERSTLEY B.	12.6	MAG CARB.	13.6
2882	45.5	MAG. CARB.	10.3	ZINC	12.9
TRINITY SPOD	54.5	ZINC	5.7	NEPH. SYEN.	35.4
		NEPH. SYEN.	28.2	EPK	2.5
		EPK	8.1	US 325	35.6
		US 325	35.8		

C4-6 OXIDATION GLAZES.

RB 25	Δ4
F. 3134	74
EPK	26

RB 26	Δ4
F-3134	52
PYROPHYLLITE	48

RB 27	
MAG. CARB	3.–
WHITING	2.–
F-3134	14.9
CUSTER	28.7
~~EPK~~ TIN OX	26.7
US 325	24.7

RB 28	
GEORGIA B.	50
~~TAYLOR~~ TENN #1	50
SINGLE FIRE.	

RB 29	Δ4
WOLLASTONITE	23.3
H 14	5.5
P 25	46.4
EPK	8.4
US 325	16.4
TIN OX	8

RB 30	Δ4
WHITING	23.6
P 25	40.3
EPK	18.7
US 325	17.4
TIN OX.	4

RB 31		
LITHIUM C.		10.–
WHITING		5.–
CRYOLITE		6.–
ZINC		22.–
KAOLIN		17.–
TITANIUM	Δ ox	8
US 325		32.–
TIN OX.		6

RB 32	Δ 1-9
WHITING	8.–
ZINC	6.5
CUSTER	59.6
EPK	13.8
US 325	12.1

RB 33	Δ 1-9
WHITING	7.3
ZINC	8.4
CUSTER	57.3
EPK	15.2
US 325	11.8

RB 34	Δ 1-9
WHITING	9.–
ZINC	9.7
CUSTER	50.1
EPK	17.8
US 325	13.4

RB 35	Δ4-9
BARIUM C.	22.1
WHITING	7.6
ZINC	6.5
CUSTER	50.4
EPK	4.7
US 325	8.7

RB 36	Δ4-9
STRONT. C.	16.6
ZINC	9.7
CUSTER	34.3
EPK	11.8
US 325	27.6

C 4-6 OXIDATION GLAZES

RB 37	Δ4
LITH. C.	16.5
NEPH. SY.	30
WHITING	15.6
EPK	5.8
US 325	32.1

RB 38	Δ4
P-25	44.4
LITH. C.	5.2
WHITING	14.0
EPK	9.1
US 325	27.3

RB 39	Δ4
LEPIDOLITE	50
GERSTLEY B.	25
ZINC	4
US 325	21

RB 40	Δ4
BARIUM C.	41.7
ZINC	11.1
F-3293	31.7
LITH. C.	1.7
EPK	9.5
US 325	4.3

RB 41	Δ4
BARIUM C.	50.4
LEPIDOLITE	34.6
LITH. CARB.	6.4
US 325	8.6
BENT.	2.0

RB 42	Δ6
BARIUM C.	34.2
CUSTER	26.8
ZINC	7.8
EPK	9.5
US 325	21.7

RB 43	Δ6
BARIUM C.	24.5
NEPH. SY.	24.7
STRONT. C.	12.4
WHITING	2.8
EPK	7.1
US 325	31.5

RB 44 BRISTOL	Δ4
ZINC	22
WHITING	4.6
LITH. CARB.	10
EPK	17.7
US 325	38.3
TITANIUM DIOX	7.4

RB 45 Δ6 BRISTOL	
ZINC	12
NEPH. SY.	40.5
LITH. CARB.	4.5
EPK	7.8
US 325	35.2

RB 46 BRISTOL	Δ6
ZINC	9.3
NEPH. SY.	25.9
LITH. CARB.	8.7
EPK 21	11.3
CALCINED EPK	9.7

RB 47 BRISTOL	Δ6
ZINC	6.9
P25	27.3
LITH. CARB.	3.2
EPK 16.9	9.3
CALCINED EPK	7.6
US 325	45.7

RB 48 Δ4 OX & RED	
TENNESSEE BALL #1	-47.5
BORAX	23.8
LITH. CARB.	28.7

Cone 4-6 Oxidation Glazes.

RB 49	Ox & Red Δ4
Tenn. #1	50
Soda Bicarb	25
Borax	12.5
Zinc ox.	12.5

RB 50	Δ4 Ox & Red
Tenn #1	48
Soda Bicarb	24
Borax	16
Gerstley B.	12

RB 51	Ox & Red. Δ4
Tenn #1	50
Soda Bicarb	25
H 14	12.5
Borax	12.5

RB 52	Δ4
Cryolite	26.3
Fluorspar	14.6
EPK	21.0
Us 325	38.1

RB 53	Δ6
Zircopax	35
Fluorspar	50
EPK	15

RB 54	Δ6
Lepidolite	61.5
Fluorspar	35.5
Bent	2.-

RB 55	Δ6
Cryolite	33
Zircopax	67
Bent.	2.

RB 56	Δ6
Cryolite	45.5
Talc	54.5
Bent	2.-

RB 57	Δ4
Lith. Carb	2.8
Custer	44.1
Wollastonite	18.5
Barium Carb.	14.9
Zinc	2.8
Mag. Carb.	1.6
Us 325	15.3
Bent	1.-

RB 58	Δ4
Custer	49.-
Zinc	10.6
Whiting	20.-
EPK	14.5
Us 325	5.9

RB 59	Δ4
G-200	52.-
Whiting	5.5
Barium C.	11.-
Stront. C.	8.3
Zinc	9.1
EPK	4.8
Us 325	9.3

RB 60	Δ4
G-200	40.-
Stront. C.	5.4
Whiting	14.4
Barium C.	14.-
Zinc	1.4
Mag. Carb.	1.4
Us 325	22.6
Bent.	.8

C 4-6 OXIDATION GLAZES

RB 61	Δ6
ZINC	18.8
WHITING	3.9
LITH. CARB	8.6
EPK	21.1
US 325	41.5
TITANIUM DIOX.	6.1

RB 62	Δ6
LEPIDOLITE	50.3
WHITING	19.9
US 325	29.8
BENT.	2.-

RB 63	Δ6 CAATER
2882	45.5
LEPIDOLITE	54.5
BENT.	2.-

RB 64	Δ6
ZINC	22.9
WHITING	4.6
LITH. CARB.	5.5
EPK	20.4
CRYOLITE	5.5
US 325	32.-
TITANIUM DIOX.	9.1

RB 65	Δ6
CUSTER	18.2
WHITING	14.7
BARIUM CARB.	29.4
EPK	21.-
US 325	16.7

RB 66	Δ6
WHITING	10.-
GERSTLY B.	15.-
BARIUM C.	10.-
2882	5.-
NEPH. SY.	30.-
US 325	20.-
LITH. CARB.	5.-
EPK	5

RB 67	Δ6
NEPH SY.	40.7
WHITING	9.1
ZINC	3.9
MAG. CARB.	2.6
BARIUM C.	12.5
EPK	5.8
US 325	25.4

RB 68	Δ4
TRINITY SPOD	73
GERST B.	22
EPK	5

RB 69	Δ4
WOLLASTONITE	48
TRINITY SPOD	48
EPK	4

RB 70	Δ4
LEPIDOLITE	80
GERST. B.	13
EPK	7

RB 71	Δ4
CUSTER	78
GERST. B.	17
EPK	5

RB 72	Δ4
F-3134	64.-
LITH. C.	2.8
EPK	24.8
TITANIUM DIOX.	8.4
BENT.	3.-

C 4-6 OXIDATION GLAZES

RB 73 – RUNS	Δ4
ZINC	20.–
STRONT. C.	6.8
NEPH. SY.	20.4
LITH. CARB.	8.4
EPK	5.8
US 325	31.4
TITANIUM DIOX.	7.2
COPPER CARB.	2.5

RB 74	Δ4
CUSTER	41.3
WHITING	14.9
ZINC	12.–
EPK	4.9
US 325	26.9
TITANIUM DIOX.	5.–

RB 75	Δ4
TRINITY SPOD.	29.–
MAG. CARB.	6.3
ZINC	3.2
H 14	13.–
WOLLAST.	17.3
EPK	10.2
US 325	21.–

RB 76	Δ4
LITH. CARB	2.5
CUSTER	37.–
STRONT. C.	29.7
ZINC	1.3
MAG. C.	1.3
EPK	4.2
US 325	24

RB 77	Δ4
LEPIDOLITE	35.7
WOLLAST.	25.9
BAR. C.	17.9
MAG. C.	3.6
ZINC	3.6
US 325	13.3
BENT.	1.–

RB 78	Δ4
P54	28.6
CUSTER	34.3
US 325	6.8
EPK	11.8
BARIUM C.	6.8
FLUORSPAR	2.9
2882	8.8

RB 79	Δ4
LEPIDOLITE	13.4
TRINITY SPOD.	21.1
H 14	17.9
WHITING	5.–
BARIUM C.	16.4
EPK	11.1
US 325	15.1

RB 80	Δ4
LITH. CARB.	2.8
CUSTER	44.3
WOLLASTONITE	18.4
BARIUM C.	15.9
ZINC	1.6
MAG. CARB.	1.6
US 325	15.4
BENT	1.–

RB 81	Δ4
NEPH. SY.	38.6
EPK	3.4
H 14	11.8
WHITING	16.8
US 325	29.4

RB 82	Δ4
CUSTER	50.–
ZINC	10.8
WHITING	18.6
EPK	14.7
US 325	5.9

RB 83	Δ4
ZINC	21.9
WHITING	5.1
LITHIUM C.	10.–
EPK	16.8
CRYOLITE	6.1
US 325	32.1
TITANIUM DIOX	8.–

RB 84	Δ4
CUSTER	31.7
STRONT. CARB.	4.4
WHITING	11.4
BARIUM C.	11.4
ZINC	1.1
MAG. CARB	1.1
US 325	36.0
FLUORSPAR	2.9

C 4-6 OXIDATION GLAZES

RB 85	Δ6
BONE ASH	6.-
NEPH. SY.	26.1
MAG. CARB.	2.4
WOLLASTONITE	13.2
~~SILICA~~ EPK	15.1
STRONT. C.	31.6
TIN OX.	5.6

RB 86	Δ6
LEPIDOLITE	23.7
MAG. C.	2.3
GERST. B.	5.4
WOLLAST.	20.8
EPK	14.7
US 325	29.7
FLUORSPAR	4.8

RB 87	Δ6
CUSTER	34.9
WHITING	12.6
ZINC	25.8
EPK	4.1
US 325	22.6

RB 88	Δ6
LITHIUM C.	9.8
CUSTER	27.3
WHITING	14.8
EPK	12.7
US 325	35.4

RB 89	Δ6
TRINITY SPOD.	50
GERST. B.	25
US 325	25
BENT	1.7

RB 90	Δ6
NEPH. SY.	47.3
GERST. B.	27.-
US 325	20.3
EPK	5.4

RB 91	Δ6
NEPH. SY.	28.2
MAG. CARB.	10.3
ZINC	5.1-
GERST. B.	12.6
US 325	35.8
EPK	8.1

RB 92	Δ4
EPK	40
P 54	60

RB 93	Δ4
PYROPHYLLITE	43
P 54	57

RB 94 CEMENT	Δ4
PORTLAND	29.3
P25	57.6
US 325	13.1

RB 95	Δ 1-6
WHITING	22.7
LITH. C.	3.5
F-3293	16.2
EPK 33.7	16.2
CALCINED EPK	17.5
US 325	24.6

RB 96	Δ 1-6
WHITING	13.5
LITH. CARB.	5.0
F-3293	23.2
EPK 22.9	13.9
CALCINED EPK	9.0
US 325	35.4

C 4-6 OXIDATION GLAZES

Δ5-6 ↓ OXIDATION

RB 97 Δ1-6		RB 98 Δ1-6		ALEXANDRA'S GLAZE	
WHITING	29.6	WHITING	18.7	CORNWALL	40
LITHIUM C.	4.7	LITH. C.	3.1	NEPH. SY.	40
F-3293	21.8	F-3293	13.3	WHITING	20
EPK	18.6	EPK 23.4	11.6		
US 325	25.3	CALCINED EPK	11.8		
		US 325	41.5		

TRANSPARENT BLUE		CHOY SILKY MATT		PANDY RED	
CUSTER	44	NEPH. SY.	53.9	~~SECRET~~ F-4	20
GB	20	WHITING	11.7	GERST. B.	32
WHITING	1	LITH. C.	4.7	2882	14
ZINC	3	ZINC	10.3	US 325	30
US 325	24	US 325	1.5	EPK	5
EPK	1	EPK	17.9	IRON 521	15
COBALT CARB	.5				
COPPER CARB	4				

PORCHESTER COPPER		CORNWALL STONE GLAZE		ELENA'S SATIN MATT	
NEPH. SY.	55	CUSTER	43.6	CUSTER	56
WHITING	25	CORNWALL	21.8	WHITING	20
US 325	10	WHITING	17.8	US 325	6
EPK	7	ZINC	7.9	EPK	18
TIN OX.	3	TITANIUM DIOX	4.0	ZINC	9
COPPER OX.	2	EPK	4.9	RUTILE	7

SUBS FOR TENN #1:
TENN #5
KENTUCKY #4

C 4-6 OXIDATION GLAZES.

47	Δ5
NS	30
F-3124	20
BARIUM C.	15
WHITING	10
LITH. C.	5

48	Δ5
F3185	45
ZINC	6
TIN	4
F-3124	45
EPK	20

101	Δ4
NS	46.8
BARIUM C.	14.2
WHITING	12.2
GB	11.5
US 325	10.2
ZINC	5.1
COP. CARB.	10

105	Δ4
LITH. CARB.	16.6
NS	29
WHITING	15.5
EPK	8.7
SILICA 325	32.2
BENT.	2

91	Δ4
TRINITY SPOD	47.5
BARIUM C.	52.5
COPPER C.	3
BENT.	2

141	Δ4
G.B.	52
EPK	13
US 325	34
BENT	1

151	Δ4
NC	38
EPK	3
F-3134	11.8
WHITING	15.4
US 325	29.4
MAG. CARB.	2.4
BENT.	2.0

152	Δ4
G-200	48.5
ZINC	2.8
WHITING	18.6
EPK	14.5
US 325	6.1
G.B.	3.5
BENT.	1.0

155	Δ4
GB	20.4
BARIUM C.	6.4
G-200	43
US 325	24.3
EPK	1
WHITING	1.6
ZINC	3.1

156	Δ4
G200	26
DOLO	8
BARIUM C.	8
WHITING	10
EPK	8
US 325	16
ZINC	9
ZIRCO +	8

166	Δ5
G.B.	51
US 325	31
EPK	16
G-200	3
BENT	1

169	Δ5
NS	51
WHITING	20
US 325	18
EPK	9
ZINC	3
BENT	1

C4-6 OXIDATION GLAZES.

176	Δ5
3124	10
2882	13
WHITING	16
NS	29
BENT	3
EPK	3
325	27
F-3249	5

185	Δ5
GB	55
2882	15
US 325	20

230	Δ5
US 325	9.92
OM4	10.23
WHITING	26.88
SPOD. (TRINITY)	52.97

238	Δ5
EPK	39.45
US 325	27.05
WHITING	24.90
LITH. C.	8.60

231	Δ5
US 325	8.02
EPK	42.02
BARIUM C.	30.23
LITH. C.	19.73

203	Δ5
G 200	29
WHITING	20
ZINC	9
GB	6
EPK	21
US 325	15

240	Δ5
LITH, C.	22.86
MAG. C.	18.16
EPK	24.16
US 325	34.82