

Old Orange- Δ 10

Lab 4-Back to the Flux Capacity



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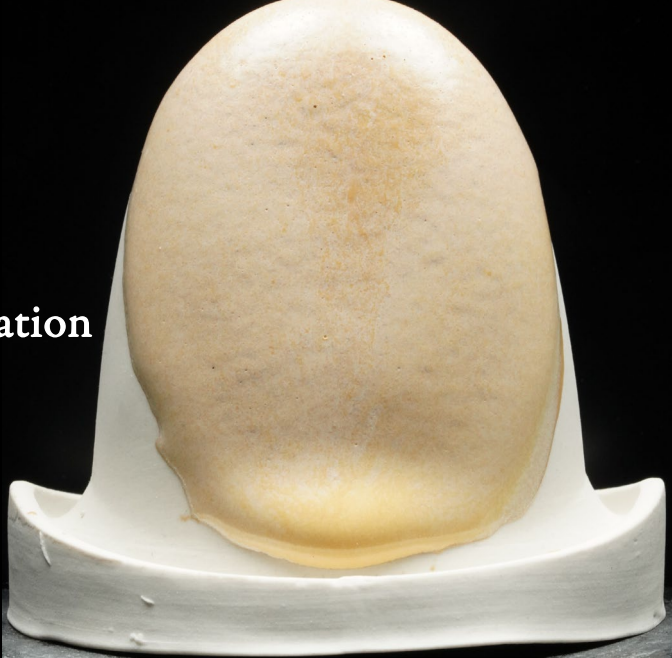
Old Orange

Original
062822-1

Neph Sy	37.51
Whiting	18.67
EPK	9.55
Flint	34.26
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

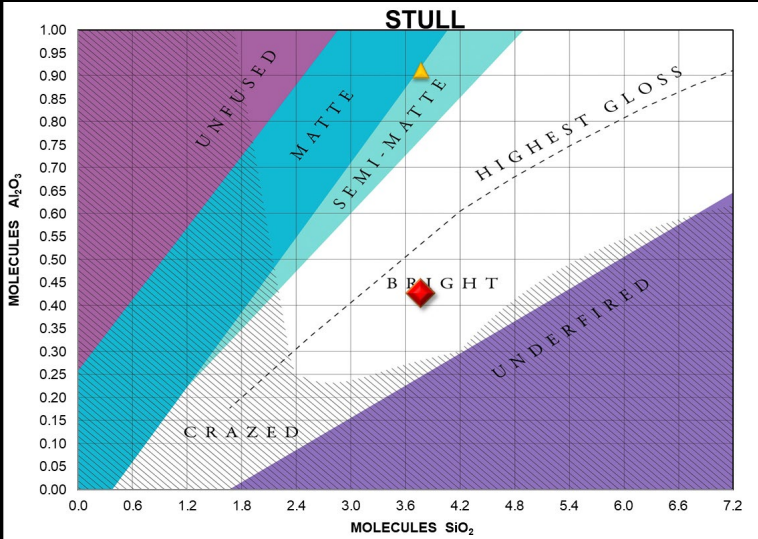


Reduction



Oxidation

SiO ₂ :Al ₂ O ₃ Ratio 8.81 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



SiO ₂ :Al ₂ O ₃ Ratio 4.13 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.91	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.49	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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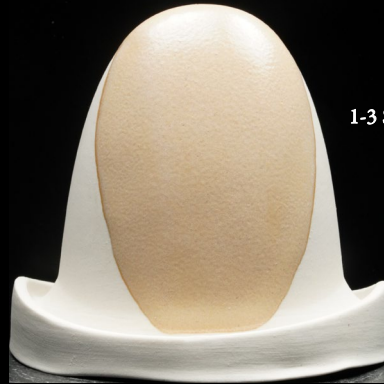
Lab 4-Alkali Metals-Oxidation



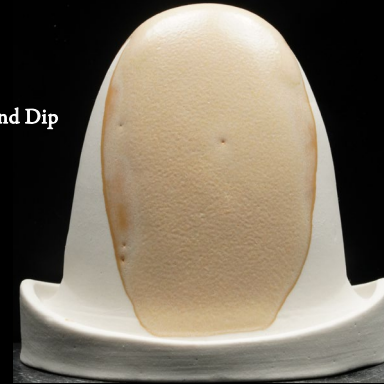
062822-1



062822-35



062822-36



062822-37



062822-X1



062822-38



Original (NS)



w/Mahavir



w/Custer



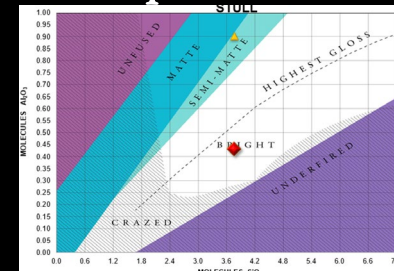
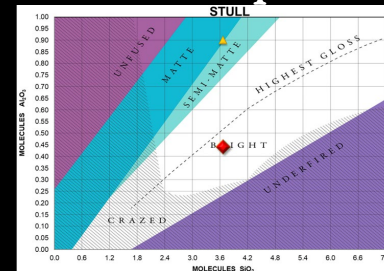
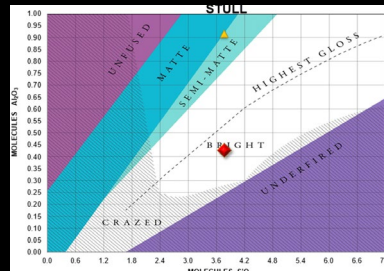
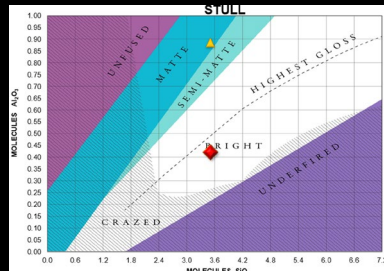
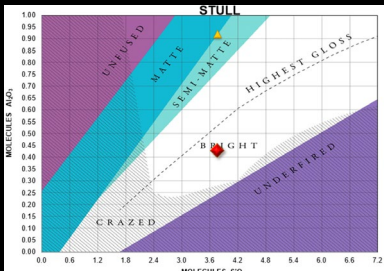
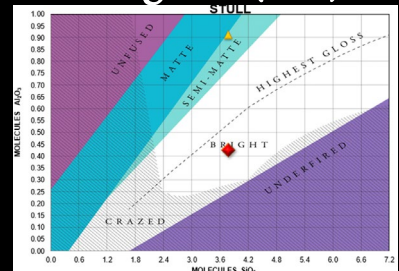
w/G200EU



w/Minspar



w/Spodumene



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Lab 4-Alkali Metals-Oxidation



062822-1



062822-40



062822-41



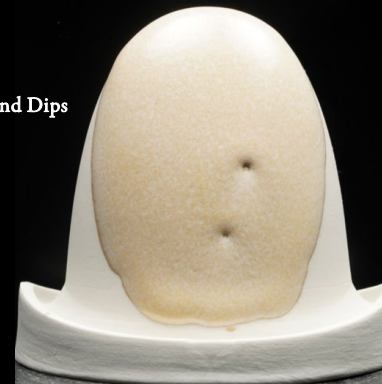
062822-42



Original (NS)



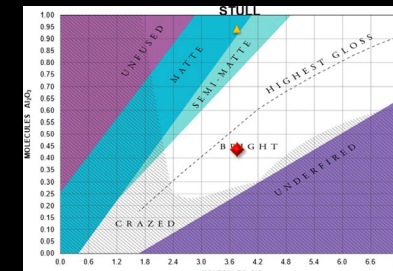
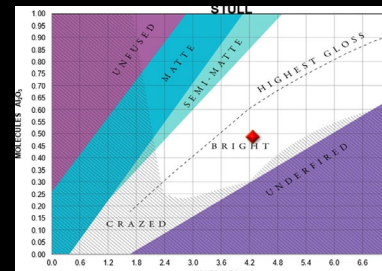
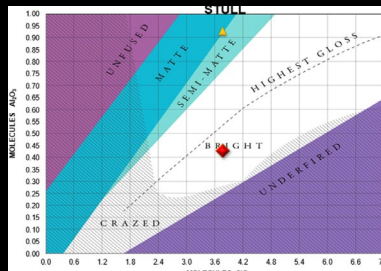
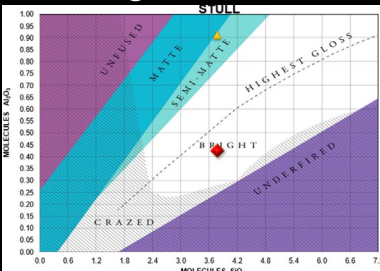
w/Frit 3110



w/Cornwall



w/Lithium Carbonate



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Lab 4-Alkali Metals-Reduction



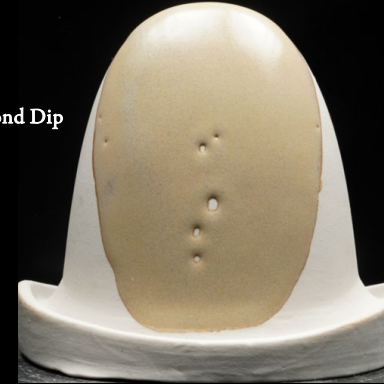
062822-1



062822-35



062822-36



062822-37



062822-X1



062822-38



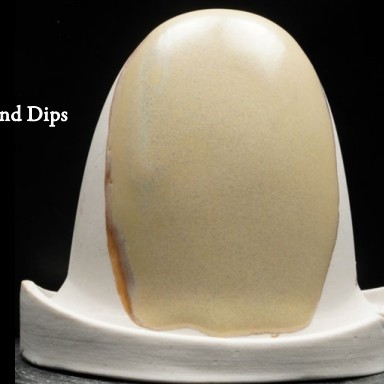
Original (NS)



w/Mahavir



w/Custer



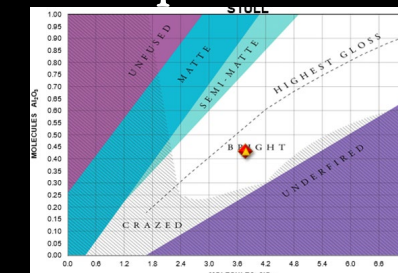
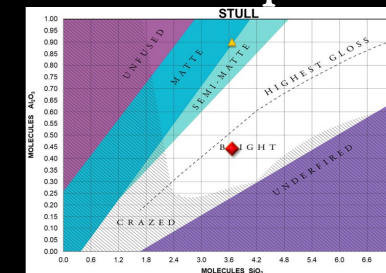
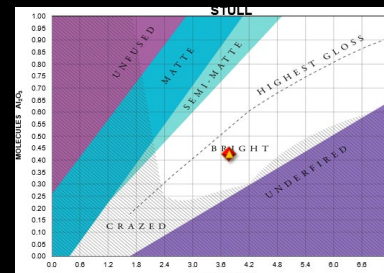
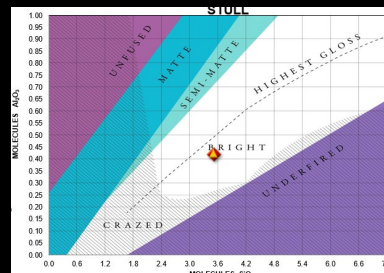
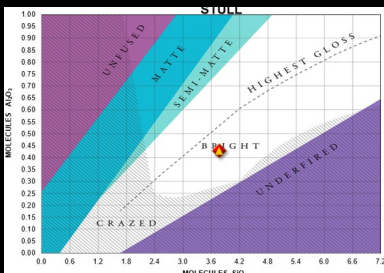
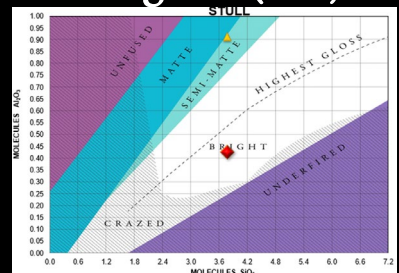
w/G200EU



w/Minspar



w/Spodumene



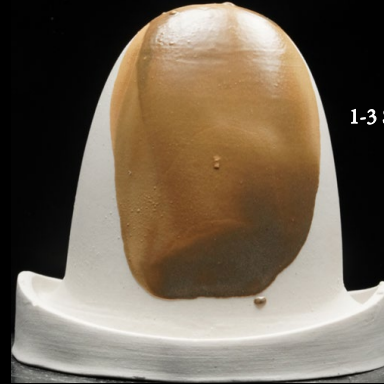
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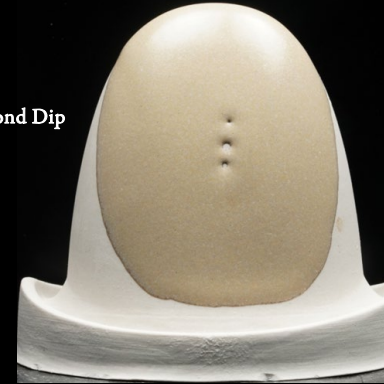
Lab 4-Alkali Metals-Reduction



062822-1



062822-40



062822-41



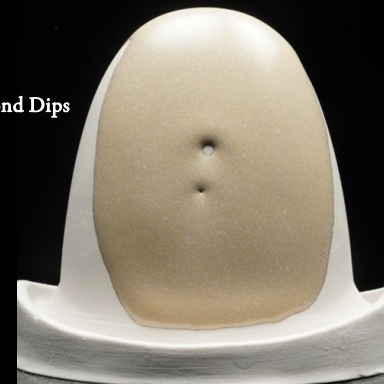
062822-42



Original (NS)



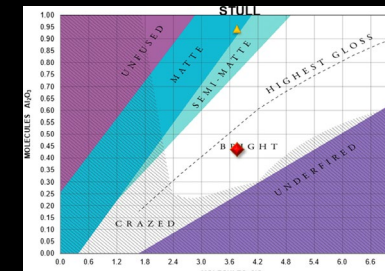
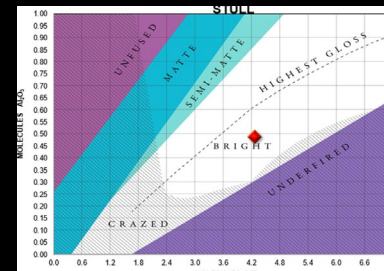
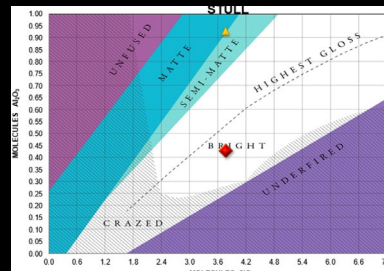
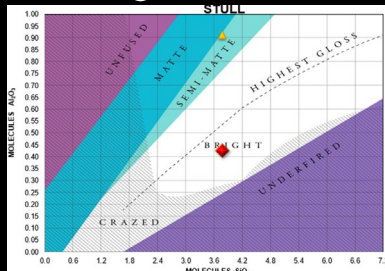
w/Frit 3110



w/Cornwall



w/Lithium Carbonate



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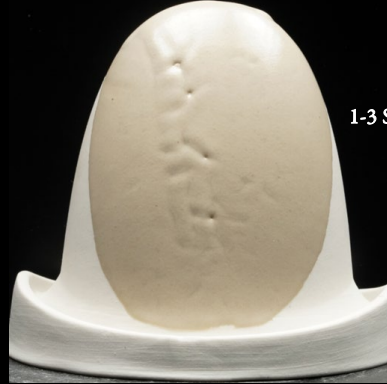
Lab 4-Alkaline Earth-Oxidation



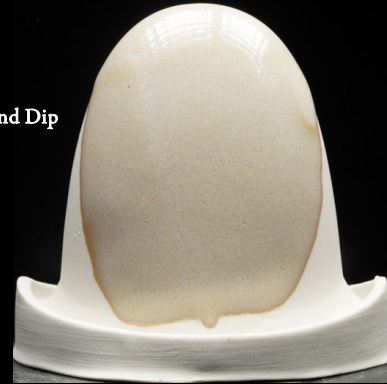
062822-1



062822-43



062822-44



062822-45



062822-46



062822-47



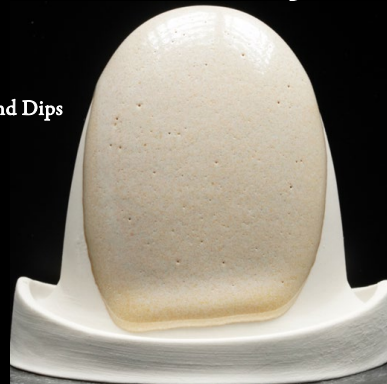
Original (W)



w/Talc



w/Mag Carb



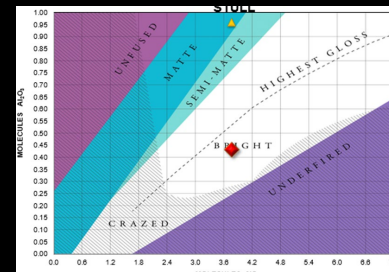
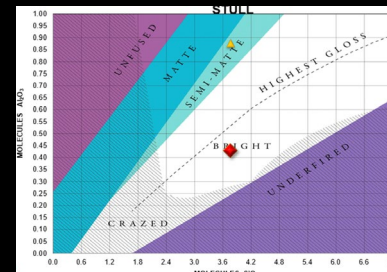
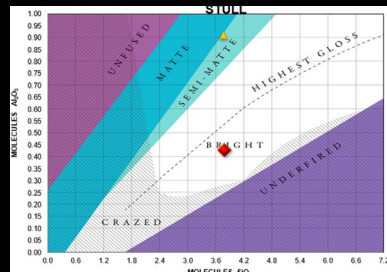
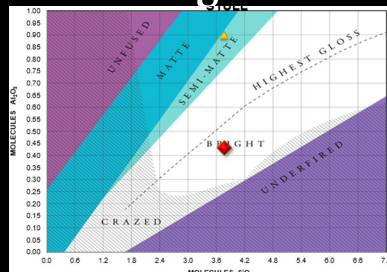
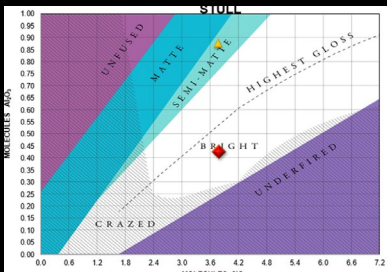
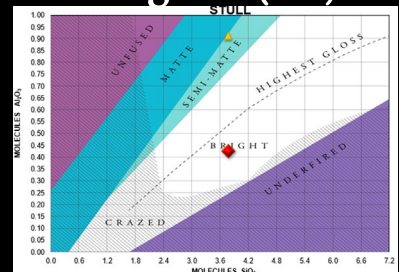
w/Dolomite



w/Wollastonite



w/Strontium Carb



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Lab 4-Alkaline Earth-Oxidation



062822-1



062822-48



062822-49



062822-50



Original (W)



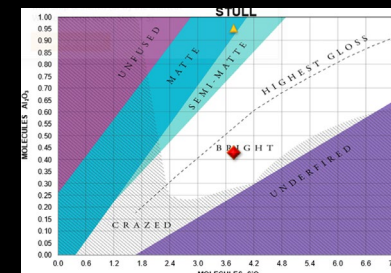
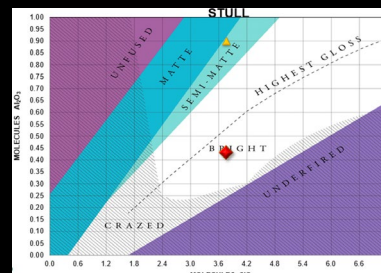
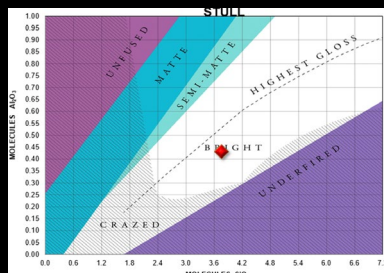
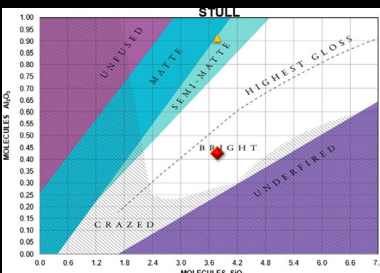
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



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Lab 4-Alkaline Earth-Reduction



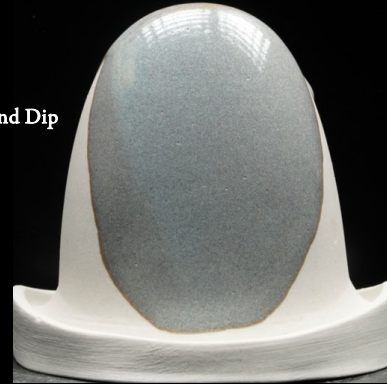
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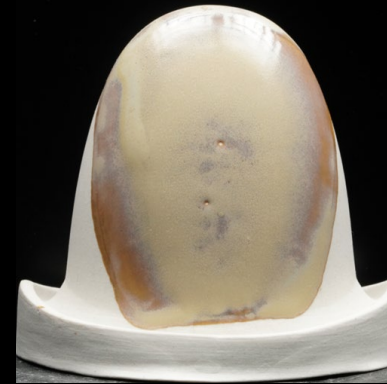
062822-43



062822-44



062822-45



062822-46



062822-47



Original (W)



w/Talc



w/Mag Carb



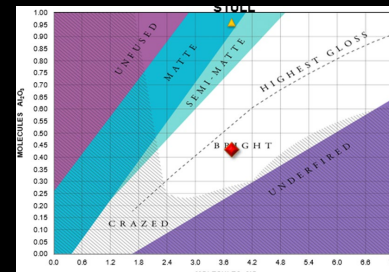
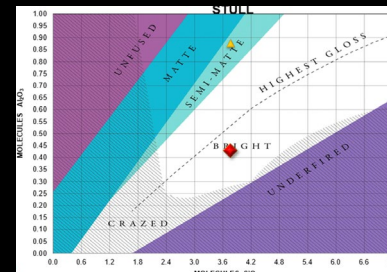
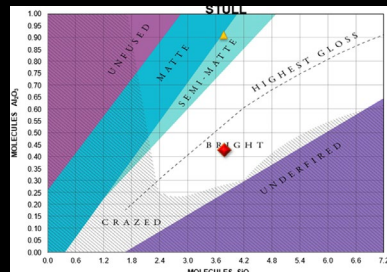
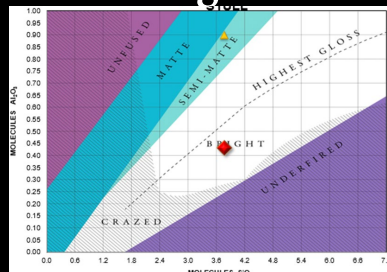
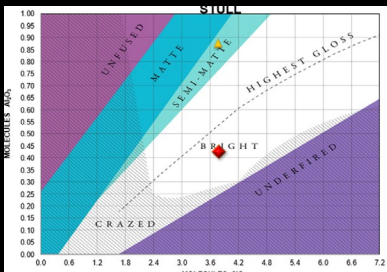
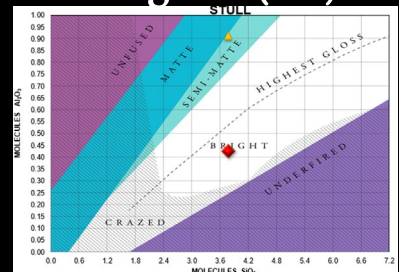
w/Dolomite



w/Wollastonite



w/Strontium Carb



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Lab 4-Alkaline Earth-Reduction



062822-1



062822-48



062822-49



062822-50



Original (W)



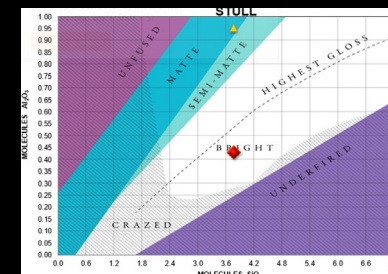
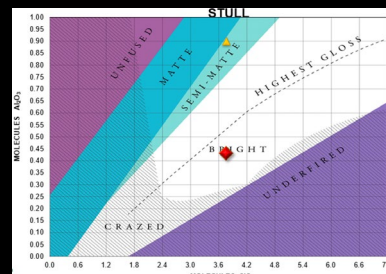
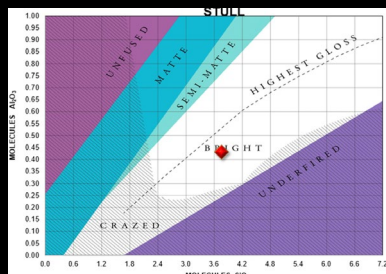
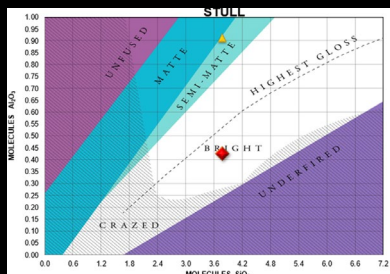
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



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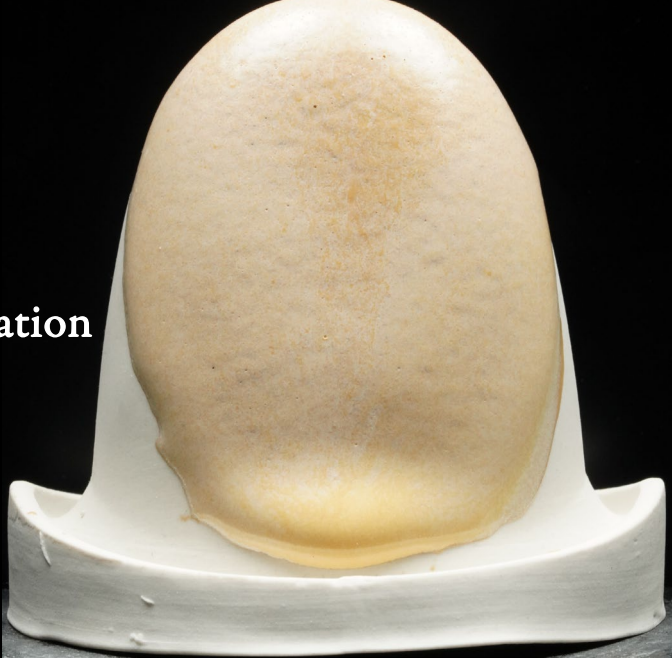
Old Orange

Original
062822-1

Neph Sy	37.51
Whiting	18.67
EPK	9.55
Flint	34.26
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips



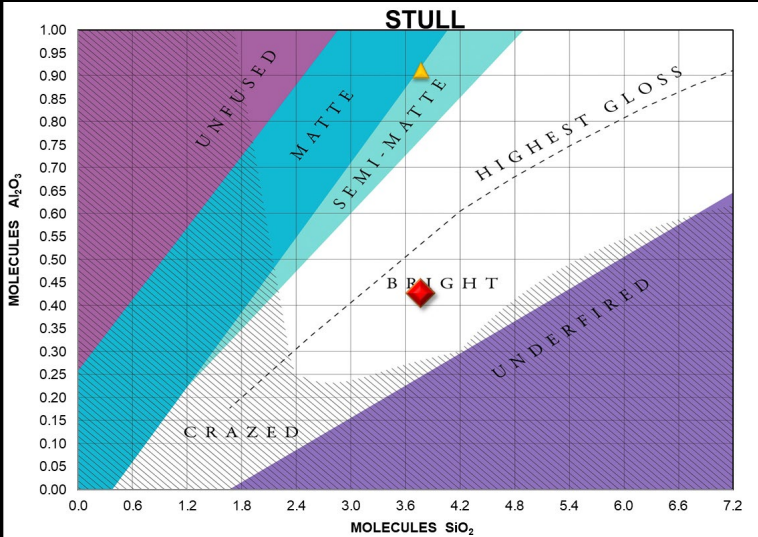
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.81 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.13 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.91	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.49	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Old Orange

Chemical Match

Mahavir Feldspar

062822-35

Mahavir	45.66
Whiting	18.45
EPK	10.16
Flint	25.74
Light Rutile	11.12
Water	60



1-3 Second Dip



2-3 Second Dips

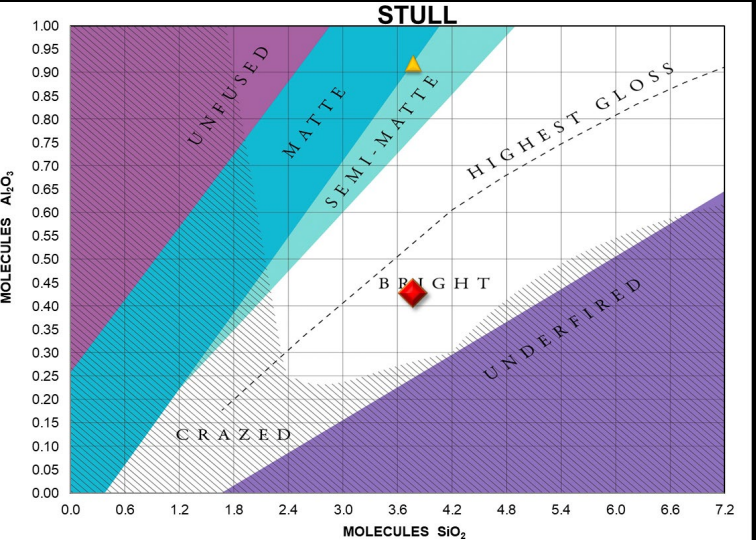


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.79 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.08	K ₂ O 0.21	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.10 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.92	Na ₂ O 0.08	K ₂ O 0.21	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.49	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match

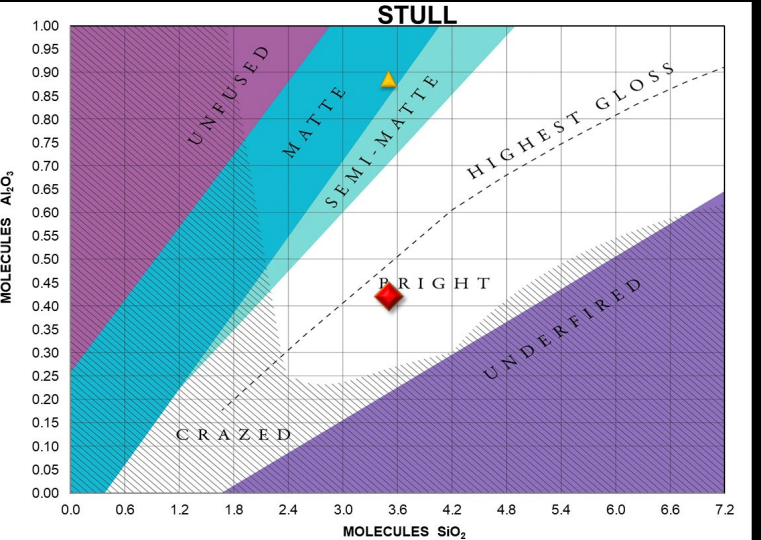
Custer Feldspar

062822-36

Custer 2022	54.60
Whiting	18.12
EPK	7.66
Flint	19.61
Light Rutile	11.11
Water	60



SiO ₂ :Al ₂ O ₃ Ratio 8.27 :1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 3.51	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.14	K ₂ O 0.20	MgO 0.00	CaO 0.65
B ₂ O ₃	Al ₂ O ₃ 0.42	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



SiO ₂ :Al ₂ O ₃ Ratio 3.95 :1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 3.50	Collective "Al ₂ O ₃ " 0.89	Na ₂ O 0.14	K ₂ O 0.20	MgO 0.00	CaO 0.64
B ₂ O ₃	Al ₂ O ₃ 0.42	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.47	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match

G200EU Feldspar

062822-37

G200 EU	51.92
Whiting	18.24
EPK	7.84
Flint	22.00
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips



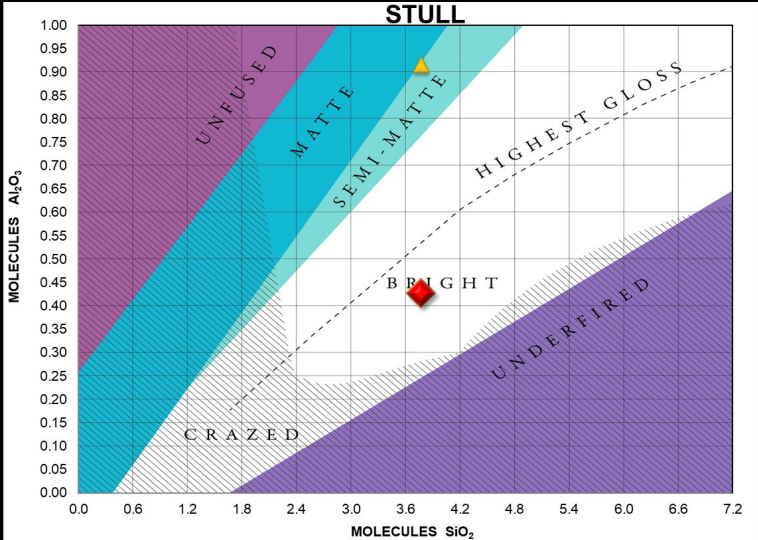
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.83 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.07	K ₂ O 0.23	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.11 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.92	Na ₂ O 0.07	K ₂ O 0.23	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.49	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Weight Substitution
Minspar Feldspar
062822-X

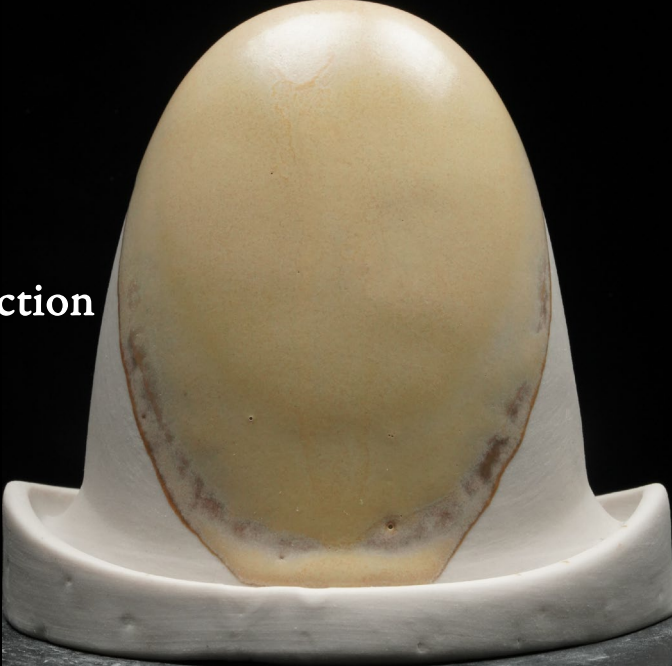
Minspar	55.65
Whiting	17.94
EPK	4.30
Flint	22.11
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

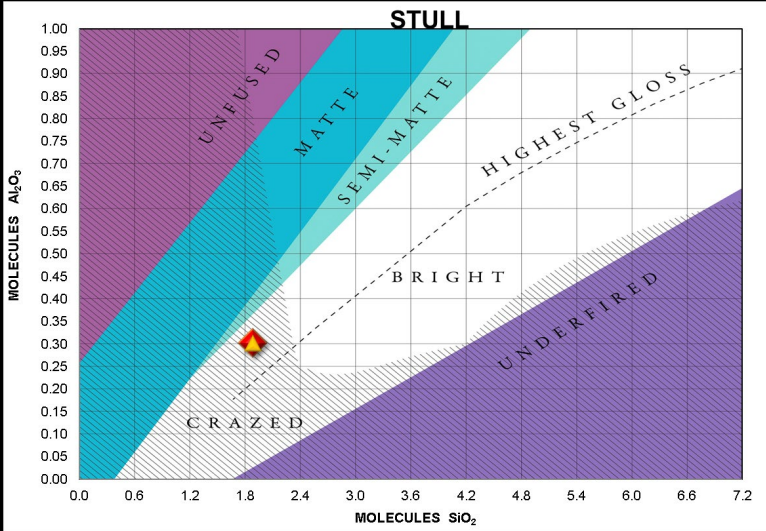


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 6.25 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.04	Collective "Al ₂ O ₃ " 0.33	Na ₂ O 0.18	K ₂ O 0.07	MgO 0.00	CaO 0.04
B ₂ O ₃	Al ₂ O ₃ 0.33	Li ₂ O	CuO	SrO 0.00	BaO 0.70
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.00	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 7.83 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 2.07	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.14	K ₂ O 0.06	MgO 0.37	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO 0.00	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.00	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.02



Ceramic
Materials
Workshop

Old Orange

Chemical Match

Spodumene

062822-38

Spodumene	31.21
Whiting	19.54
EPK	10.74
Flint	38.51
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



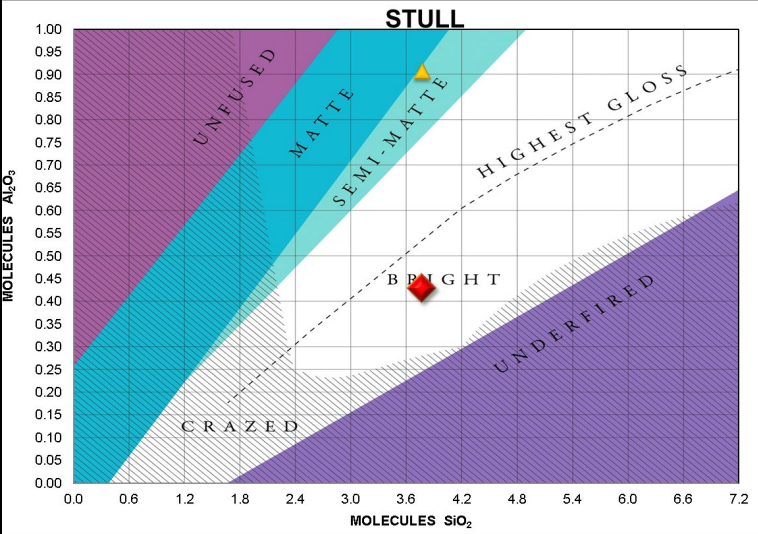
2-3 Second Dips

Oxidation

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.79 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.20	K ₂ O 0.09	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO 0.00	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.00	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.15 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.91	Na ₂ O 0.20	K ₂ O 0.09	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO 0.00	BaO 0.00
TiO ₂ 0.48	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.00	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match

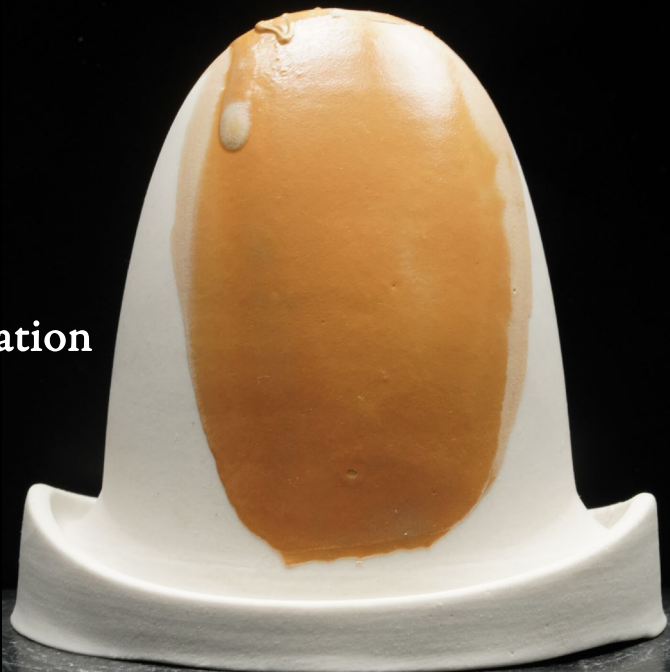
Frit 3110

062822-40

3110	27.91
Whiting	15.34
EPK	29.66
Flint	27.08
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

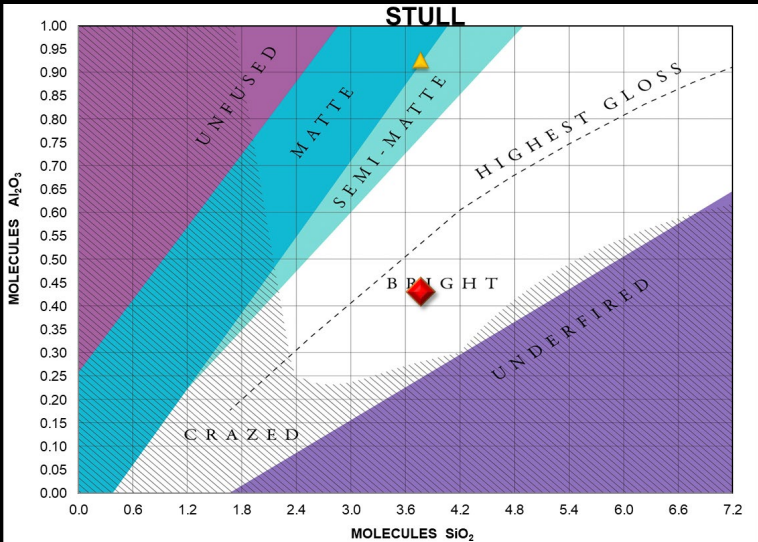


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.67 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.44	Na ₂ O 0.26	K ₂ O 0.03	MgO 0.00	CaO 0.69
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.06 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.93	Na ₂ O 0.26	K ₂ O 0.03	MgO 0.00	CaO 0.69
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.50	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Chemical Match
Cornwall Stone
062822-41

Cornwall	85.21
Whiting	14.79
EPK	
Flint	
Bentonite	2.28
Light Rutile	11.39
Water	60



1-3 Second Dip



2-3 Second Dips

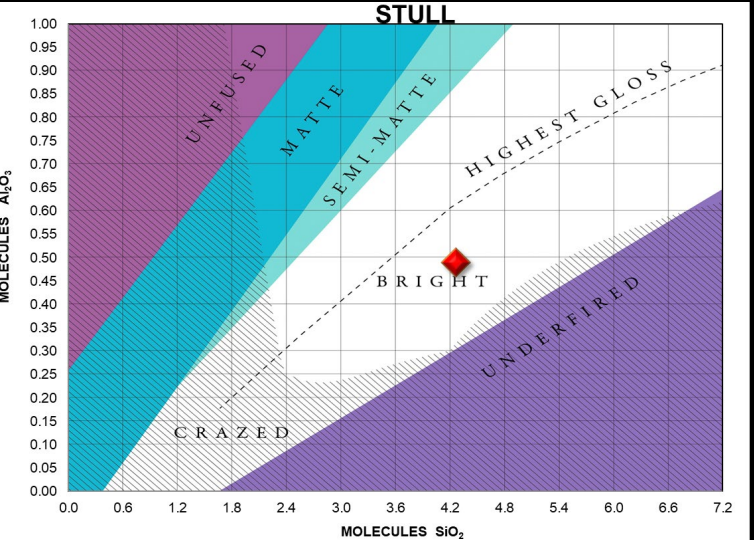


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.71 : 1		Alkali Metals 0.30		Alkaline Earths 0.70	
SiO ₂ 4.28	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.16	K ₂ O 0.13	MgO 0.01	CaO 0.67
B ₂ O ₃	Al ₂ O ₃ 0.49	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.17 : 1		Alkali Metals 0.30		Alkaline Earths 0.70	
SiO ₂ 4.27	Collective "Al ₂ O ₃ " 1.02	Na ₂ O 0.16	K ₂ O 0.13	MgO 0.01	CaO 0.67
B ₂ O ₃	Al ₂ O ₃ 0.49	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.53	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Chemical Match

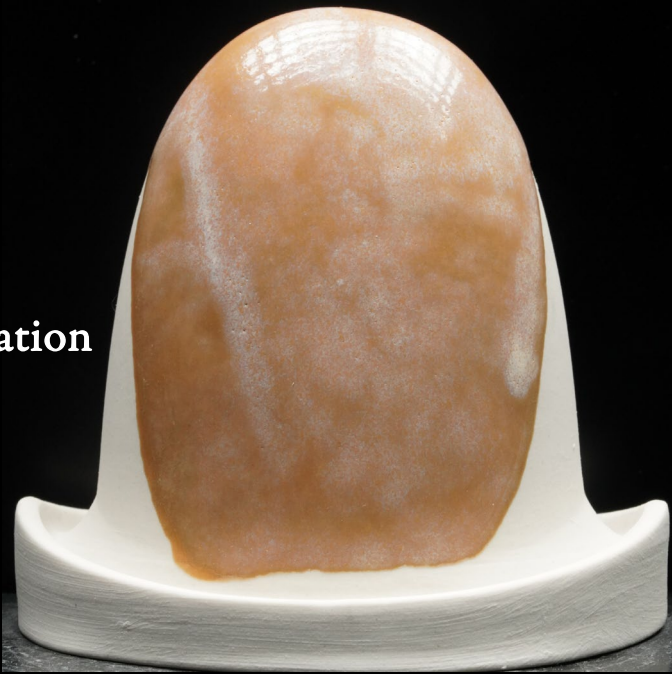
Lithium Carbonate

062822-42

Lithium Carb	5.47
Whiting	18.08
EPK	32.29
Flint	44.15
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

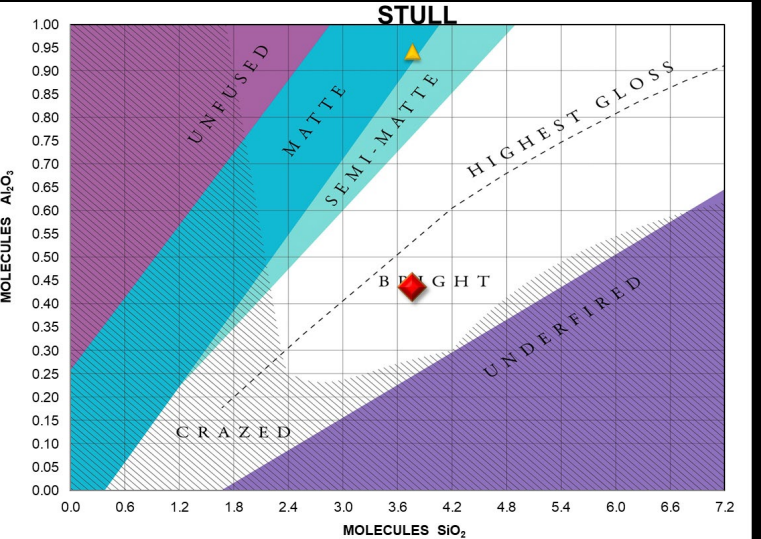


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.54 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.44	Na ₂ O	K ₂ O 0.01	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 3.99 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.76	Collective "Al ₂ O ₃ " 0.94	Na ₂ O	K ₂ O 0.01	MgO 0.01	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.44	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.51	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match
Talc

062822-43

Neph Sy	39.93
Talc	25.29
EPK	11.02
Flint	23.76
Light Rutile	11.12
Water	60



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



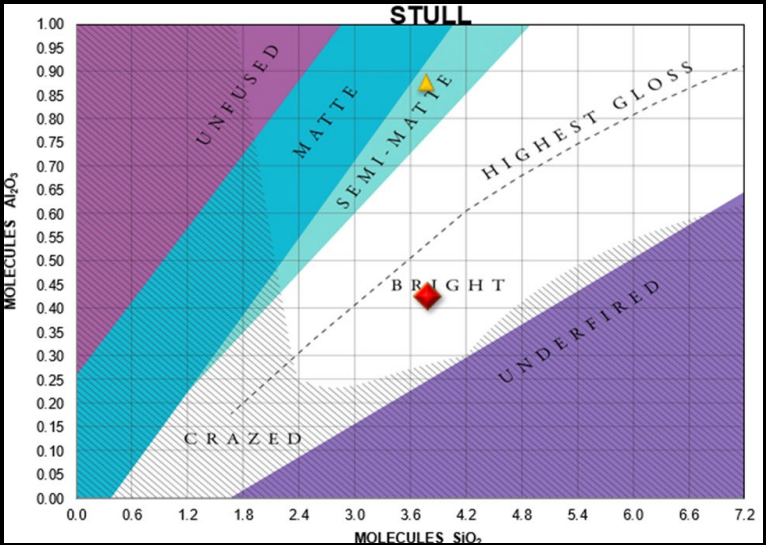
2-3 Second Dips

Oxidation

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.77 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.22	K ₂ O 0.07	MgO 0.63	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.30 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.88	Na ₂ O 0.22	K ₂ O 0.07	MgO 0.63	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.45	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

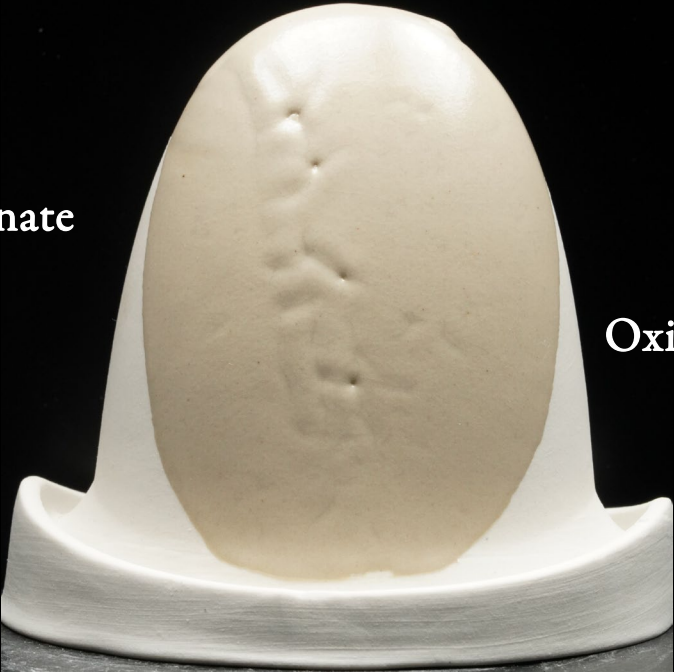


Ceramic
Materials
Workshop

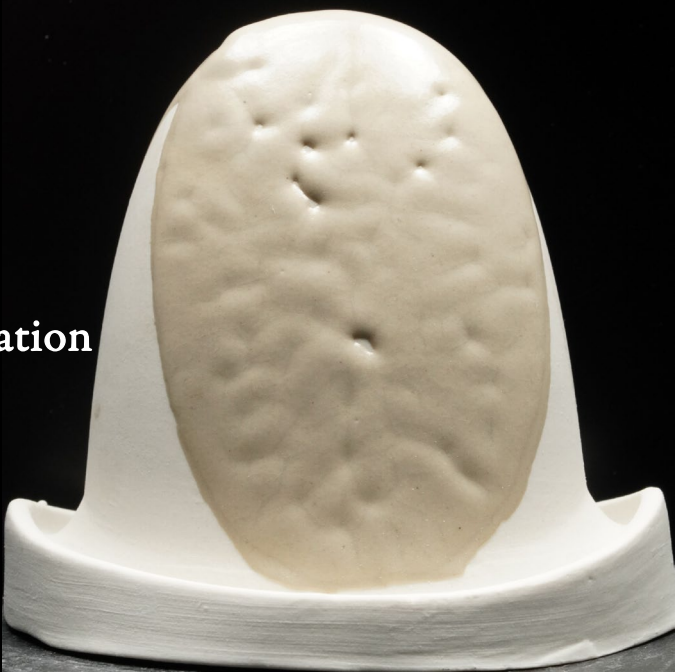
Old Orange

Chemical Match
Magnesium Carbonate
062822-44

Neph Sy	38.18
Mag Carbonate	15.93
EPK	10.46
Flint	35.43
Light Rutile	11.11
Water	130



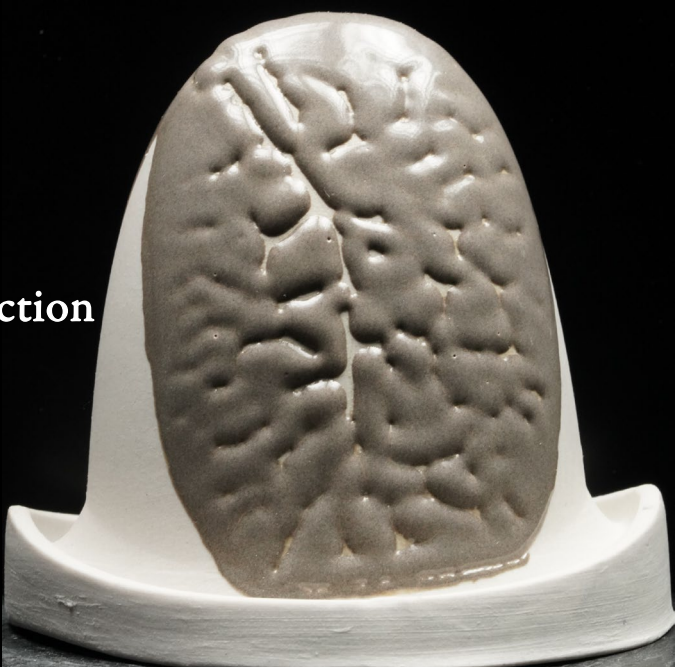
1-3 Second Dio



2-3 Second Dips

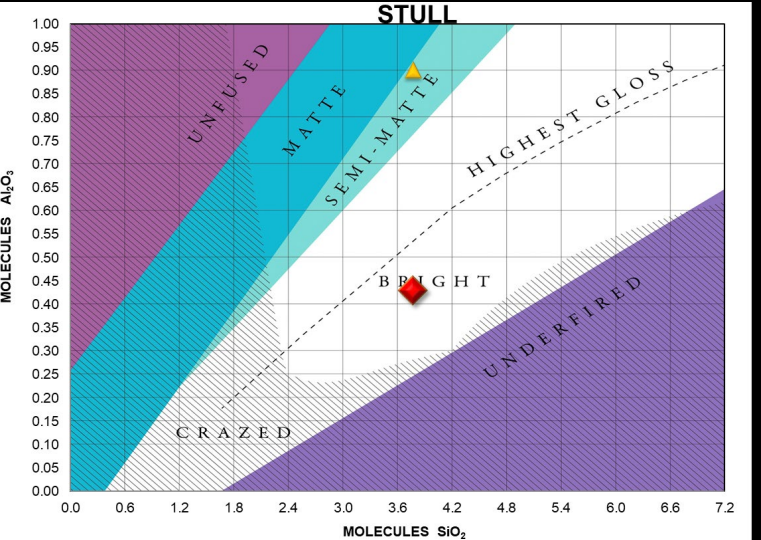


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.73 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.69	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.18 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.90	Na ₂ O 0.23	K ₂ O 0.06	MgO 0.69	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.47	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match
Dolomite

062822-45

Neph Sy	37.54
Dolomite	17.51
EPK	10.22
Flint	34.74
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

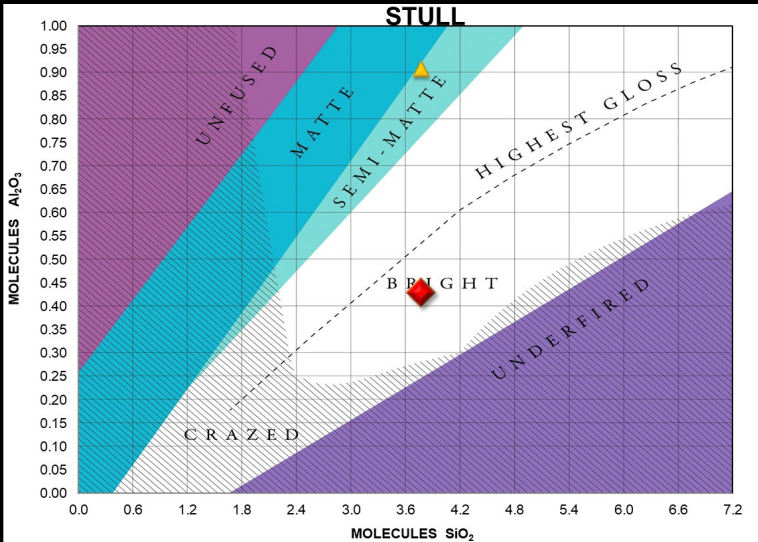


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.74 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.35	CaO 0.35
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.14 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.91	Na ₂ O 0.23	K ₂ O 0.06	MgO 0.35	CaO 0.35
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.48	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Chemical Match
Wollastonite

062822-46

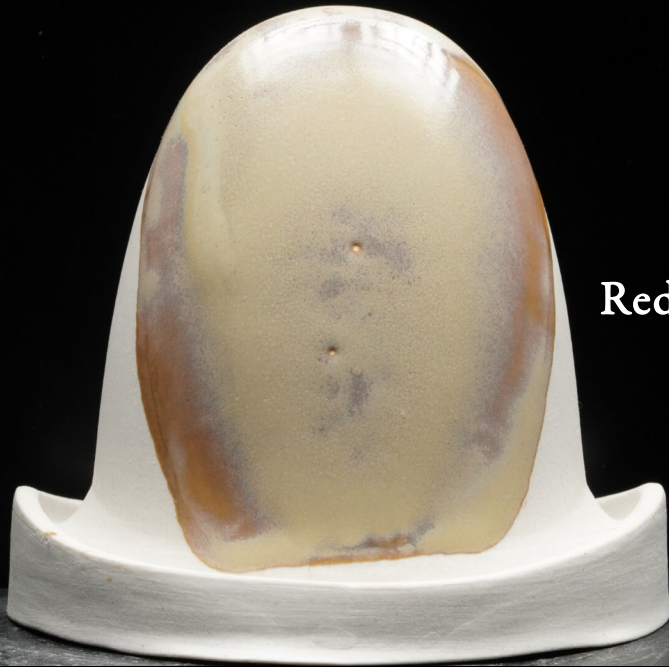
Neph Sy	39.78
Wollastonite	24.91
EPK	10.58
Flint	24.73
Light Rutile	11.11
Water	60



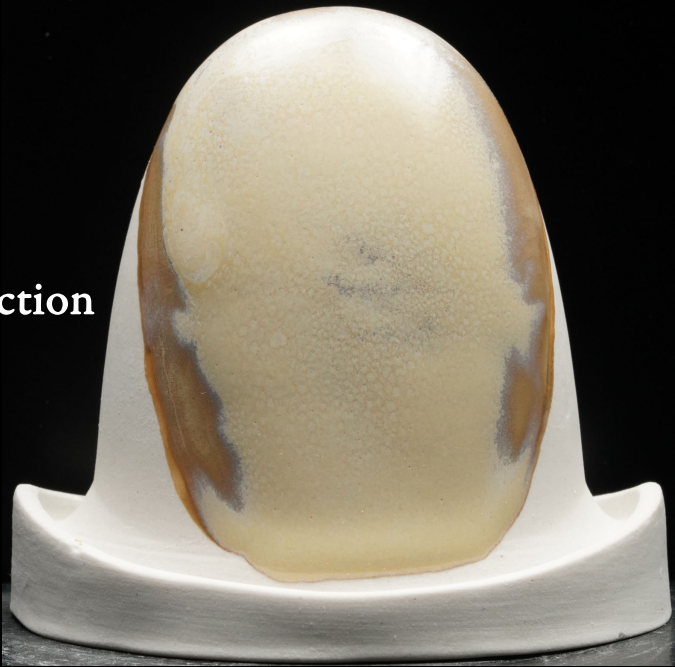
1-3 Second Dip



2-3 Second Dips



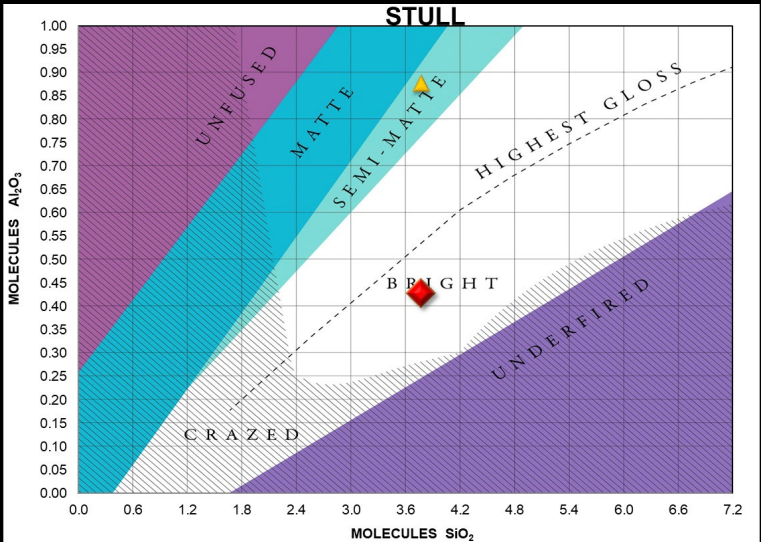
Reduction



ceramicmaterialsworkshop.com

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.77 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.03	CaO 0.67
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.29 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.88	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.03	CaO 0.66
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.45	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Chemical Match

Strontium Carbonate

062822-47

Neph Sy	33.96
Strontium Carb	25.36
EPK	9.25
Flint	31.43
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

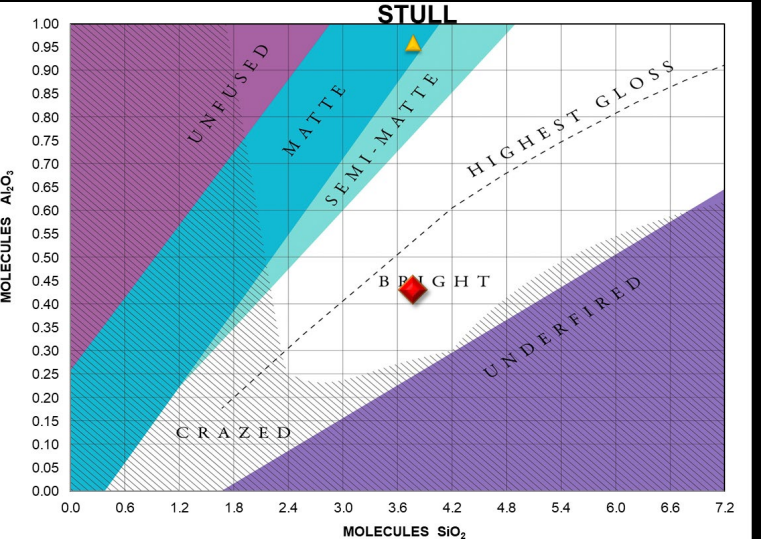


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.74 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO 0.69	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 3.93 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.96	Na ₂ O 0.23	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO 0.69	BaO
TiO ₂ 0.53	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match

Barium Carbonate

062822-48

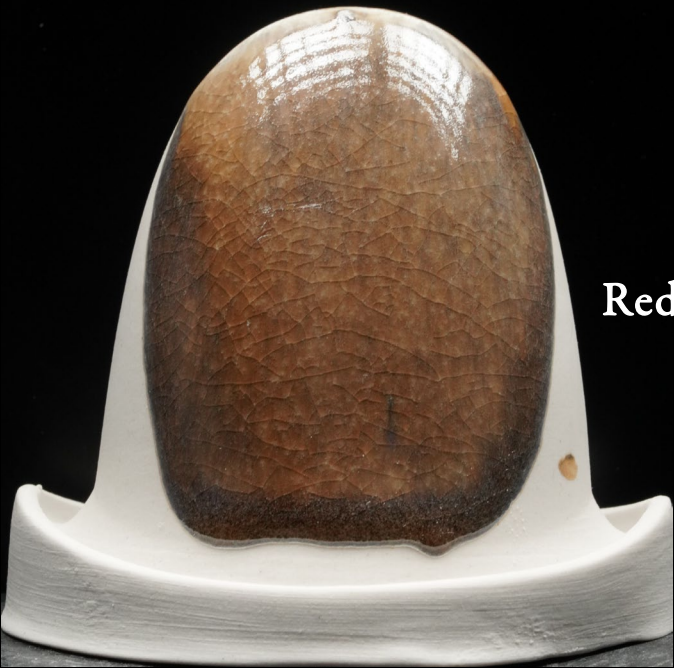
Neph Sy	31.33
Barium Carb	31.22
EPK	8.50
Flint	28.95
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips

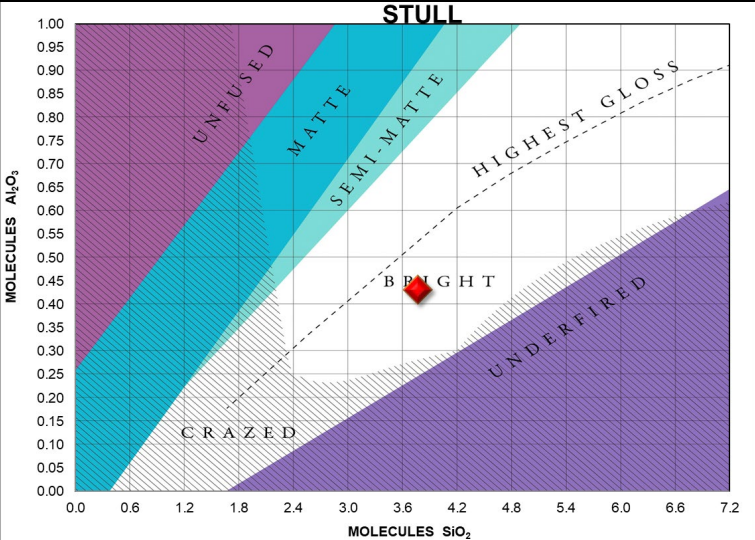


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.74 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO 0.69
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 3.75 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 1.01	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO 0.69
TiO ₂ 0.57	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

Old Orange

Chemical Match

Zinc Oxide

062822-49

Neph Sy	38.24
Zinc Oxide	15.79
EPK	10.48
Flint	35.49
Light Rutile	11.11
Water	60



1-3 Second Dip



2-3 Second Dips



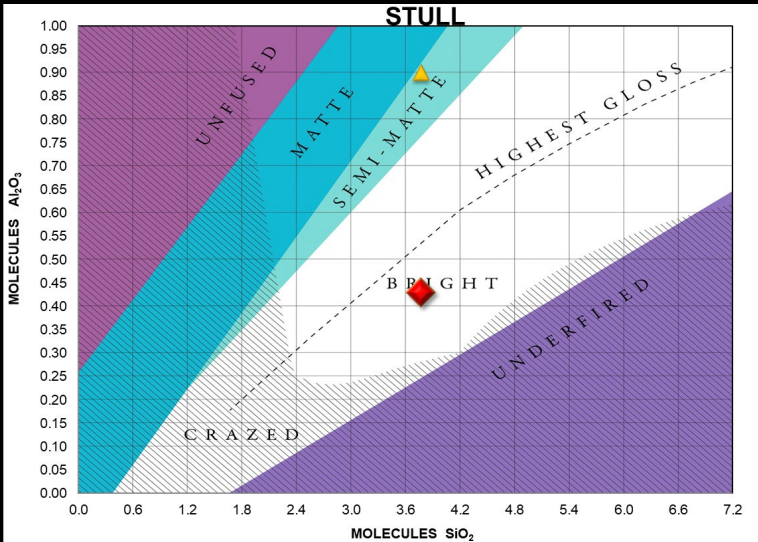
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.74 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.69	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.19 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.90	Na ₂ O 0.22	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.47	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.69	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Old Orange

Chemical Match
Bone Ash
062822-50

Neph Sy	34.26
Bone Ash	24.45
EPK	9.46
Flint	31.83
Light Rutile	11.11
Water	60



Oxidation

1-3 Second Dip



2-3 Second Dips

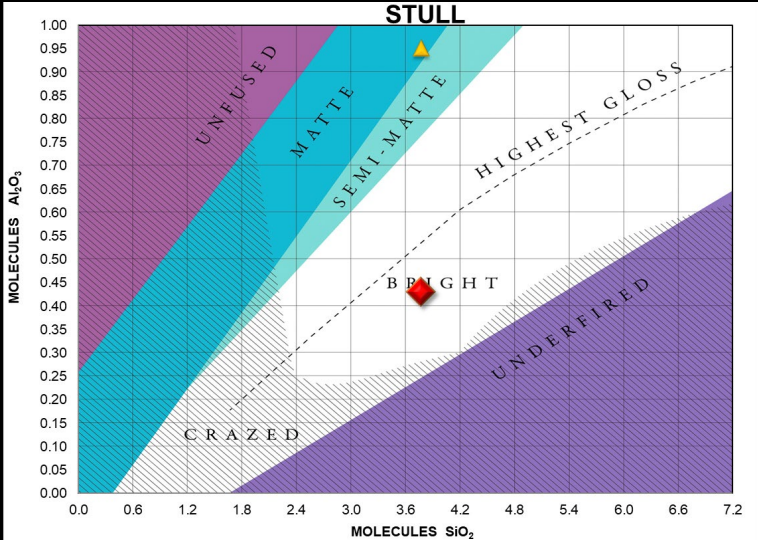


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.74 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.78	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.38		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 3.96 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.77	Collective "Al ₂ O ₃ " 0.95	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.69
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO	SrO	BaO
TiO ₂	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.38		MnO ₂	CoO



Ceramic
Materials
Workshop