

Freckles- Δ 6

Lab 4-Back to the Flux Capacity

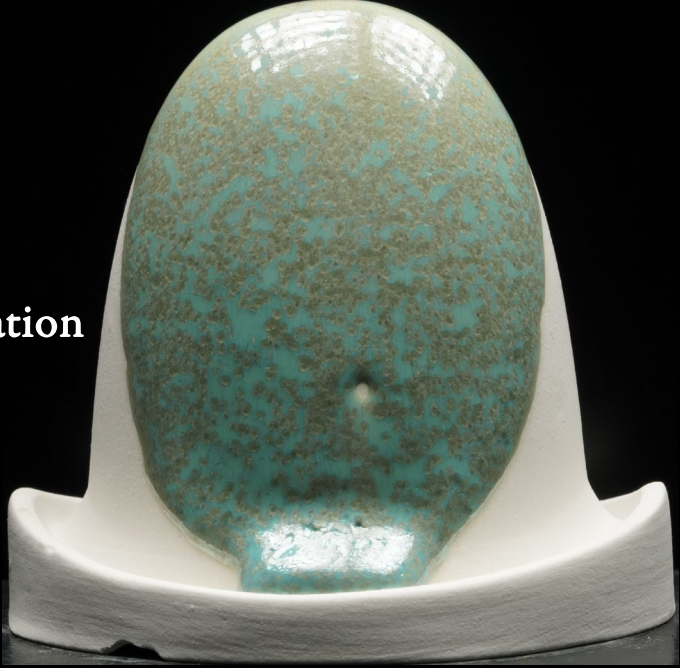
Freckles

Original
071022-1

Neph Sy	38.96
Whiting	8.99
Zinc Oxide	16.98
EPK	4.99
Flint	27.97
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.00
Water	60



1-3 Second Dip



2-3 Second Dips

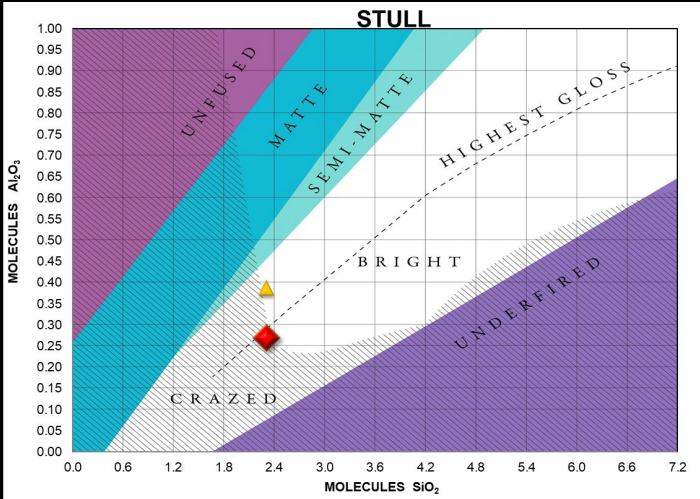


Reduction

Oxidation

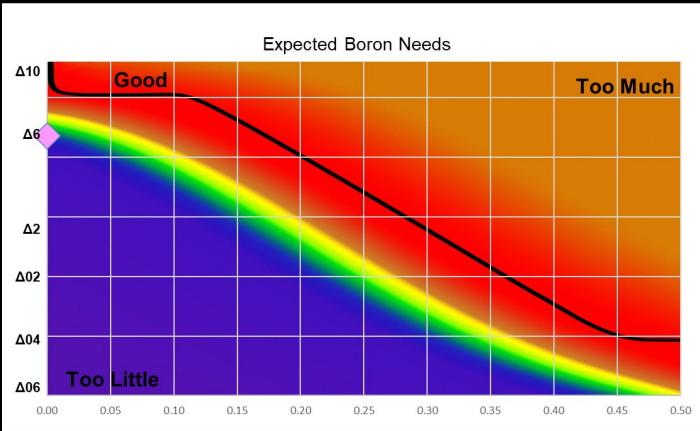
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.58 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.95 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.00	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Lab 4-Alkali Metals-Oxidation



071022-1



071022-34



071022-35



071022-36



071022-37



071022-38

1-3 Second Dip

2-3 Second Dips



Original (NS)



w/G200 EU



w/Minspar



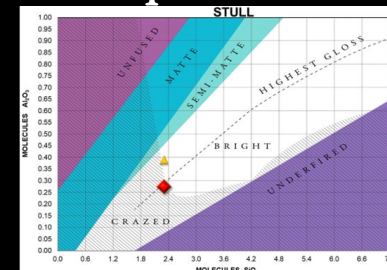
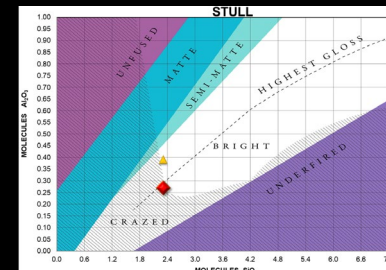
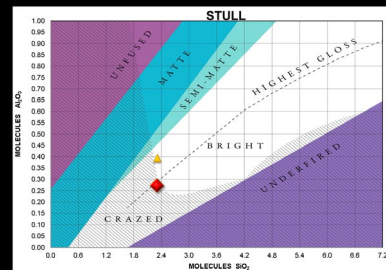
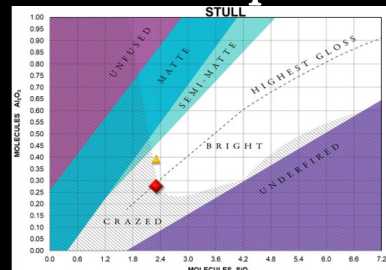
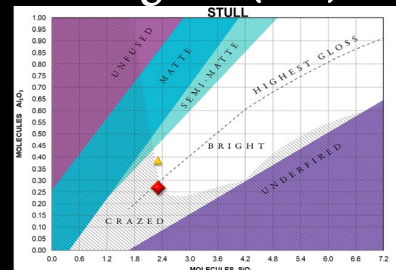
w/Custer



w/Mahavir



w/Spodumene



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Lab 4-Alkali Metals-Oxidation



071022-1



071022-40



071022-42

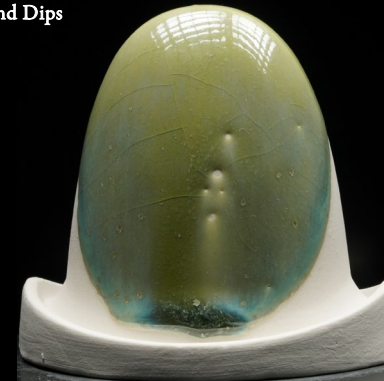
1-3 Second Dip



Original (NS)

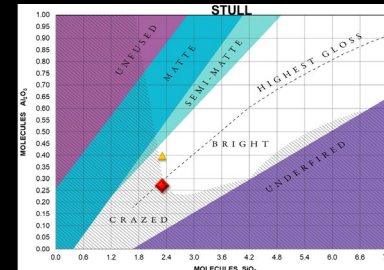
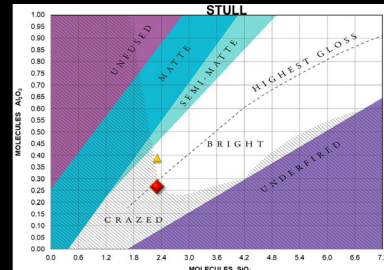
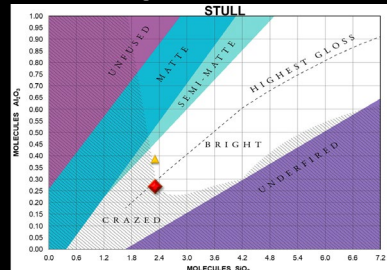


w/Frit 3110



w/Lithium Carb

2-3 Second Dips



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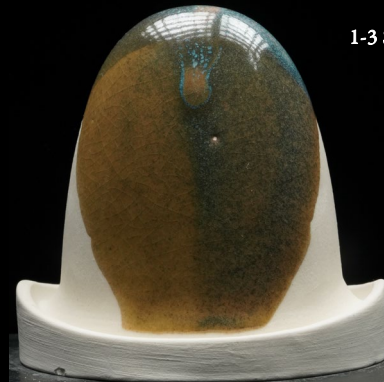
Lab 4-Alkali Metals-Reduction



071022-1



071022-34



071022-35



071022-36



071022-37



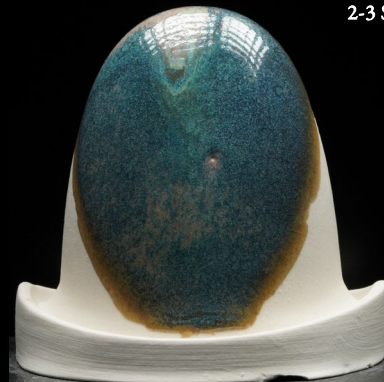
071022-38



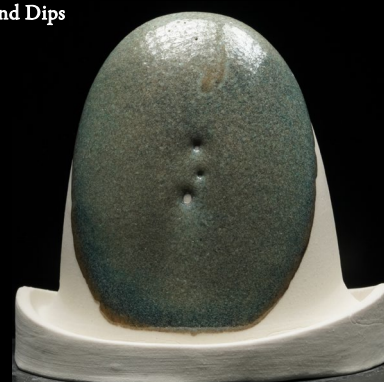
Original (NS)



w/G200 EU



w/Minspar



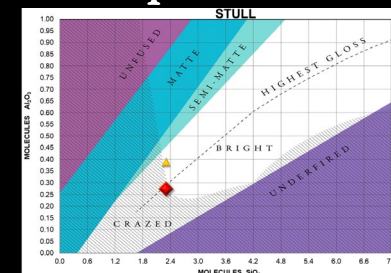
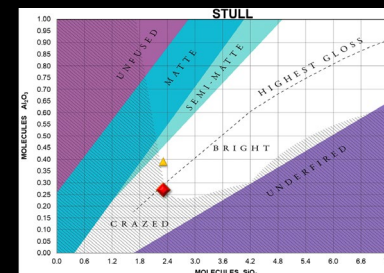
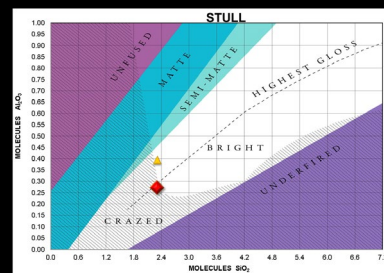
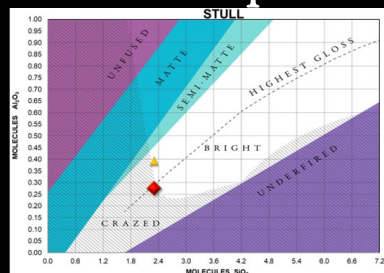
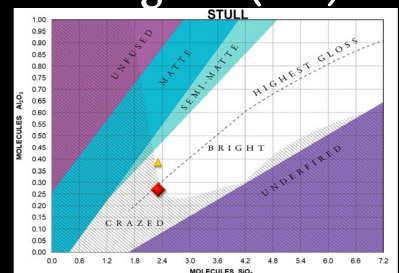
w/Custer



w/Mahavir



w/Spodumene



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Lab 4-Alkali Metals-Reduction



071022-1



071022-40



071022-42

1-3 Second Dip



Original (NS)

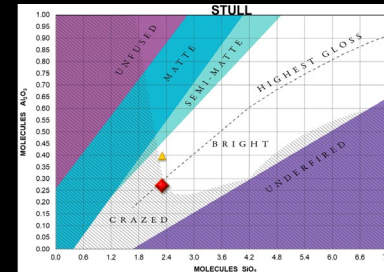
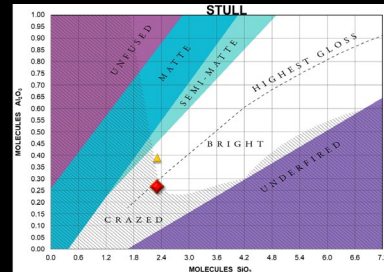
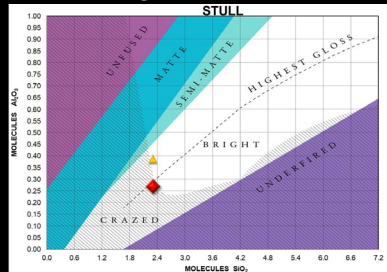


w/Frit 3110



w/Lithium Carb

2-3 Second Dips



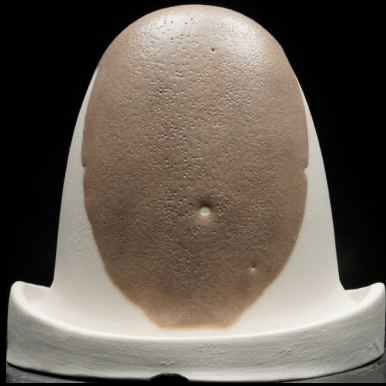
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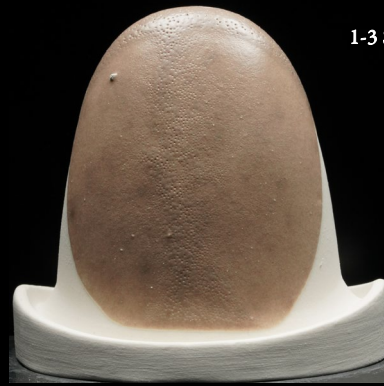
Lab 4-Alkaline Earth-Oxidation



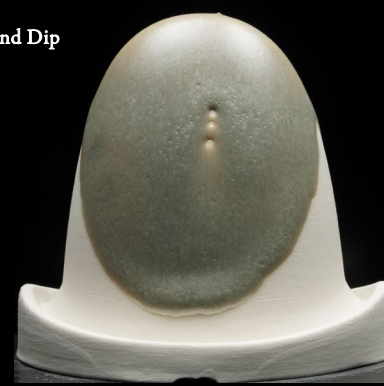
071022-1



071022-43



071022-44



071022-45



071022-46



071022-47

1-3 Second Dip



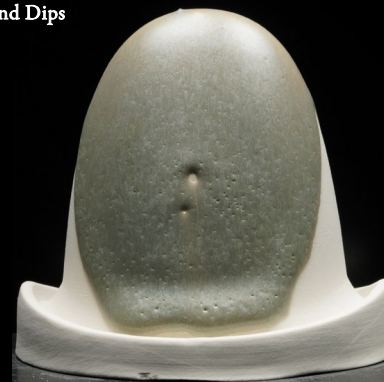
Original (W)



w/Talc



w/Mag Carb



w/Dolomite

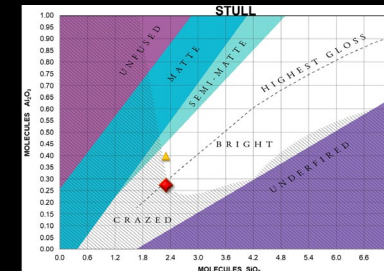
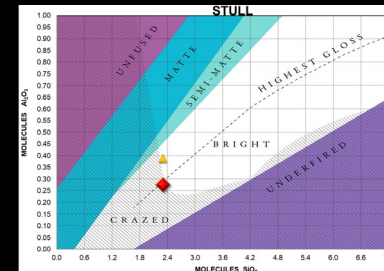
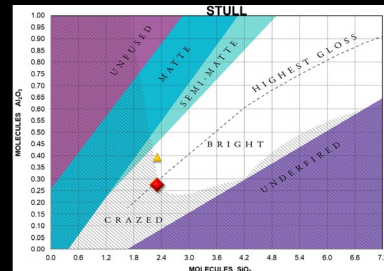
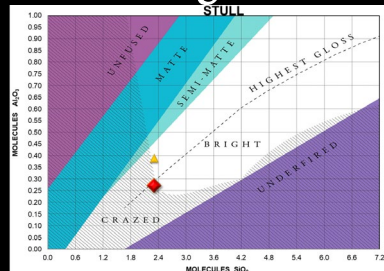
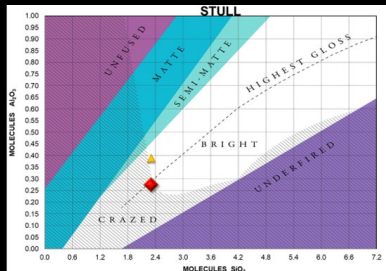
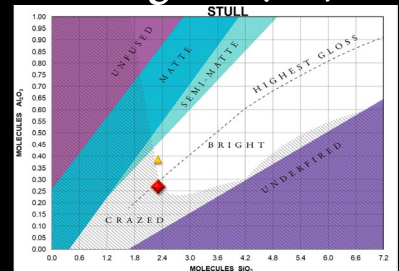


w/Wollastonite



w/Strontium Carb

2-3 Second Dips



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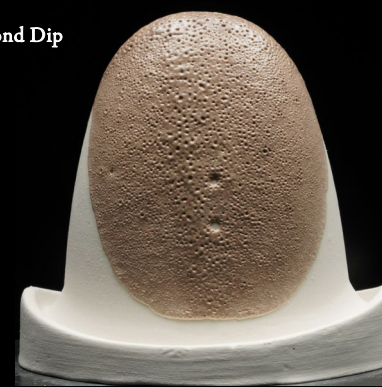
Lab 4-Alkaline Earth-Oxidation



071022-1



071022-48



071022-49



071022-50

1-3 Second Dip

2-3 Second Dips



Original (W)



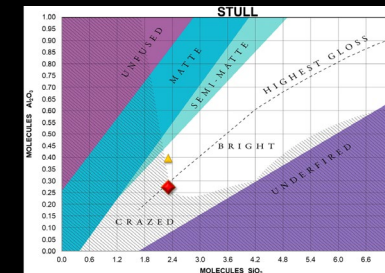
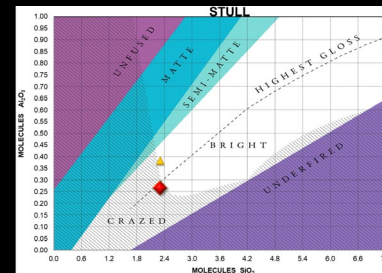
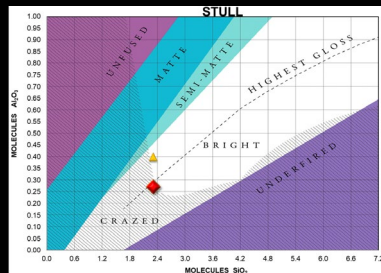
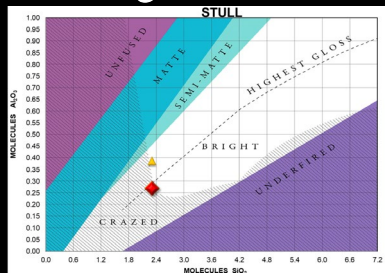
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



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Lab 4-Alkaline Earth-Reduction



071022-1



071022-43



071022-44

1-3 Second Dip



071022-45



071022-46



071022-47



Original (W)



w/Talc



w/Mag Carb

2-3 Second Dips



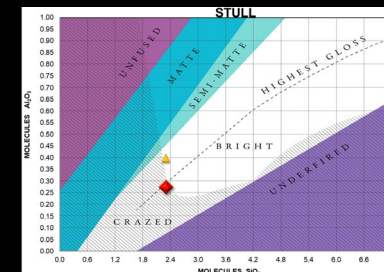
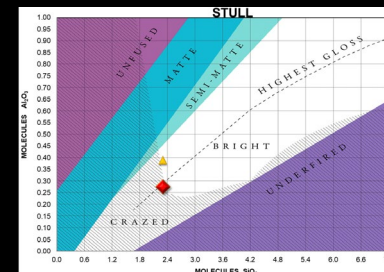
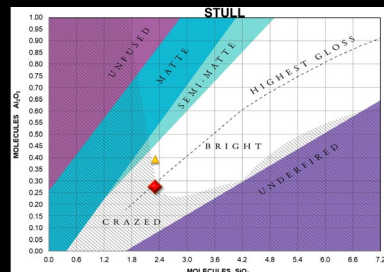
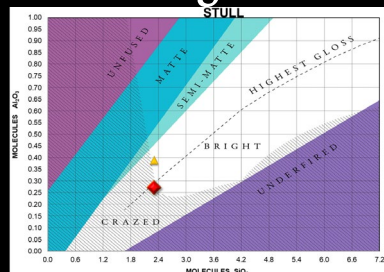
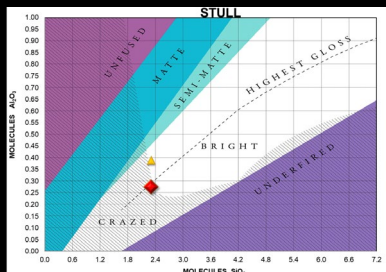
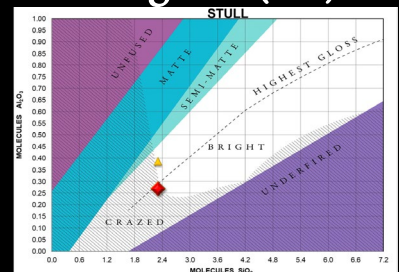
w/Dolomite



w/Wollastonite



w/Strontium Carb



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Lab 4-Alkaline Earth-Reduction



071022-1



071022-48



071022-49



071022-50

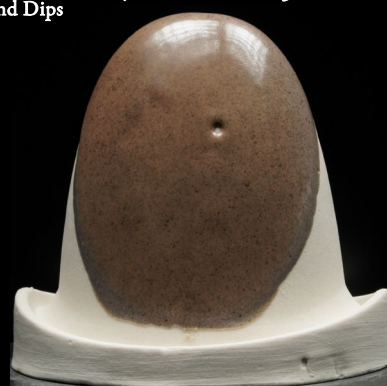
1-3 Second Dip



Original (W)



w/Barium Carb

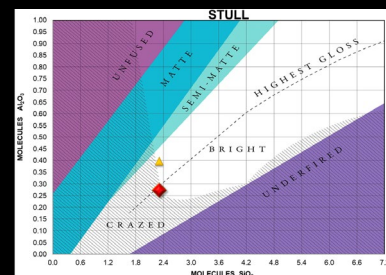
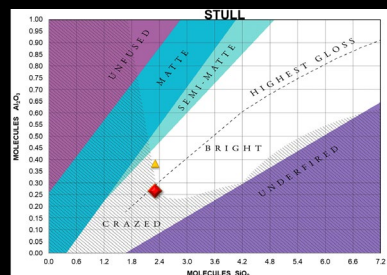
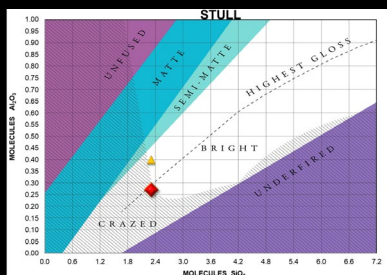
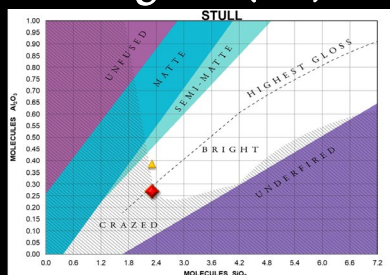


w/Zinc Oxide



w/Bone Ash

2-3 Second Dips



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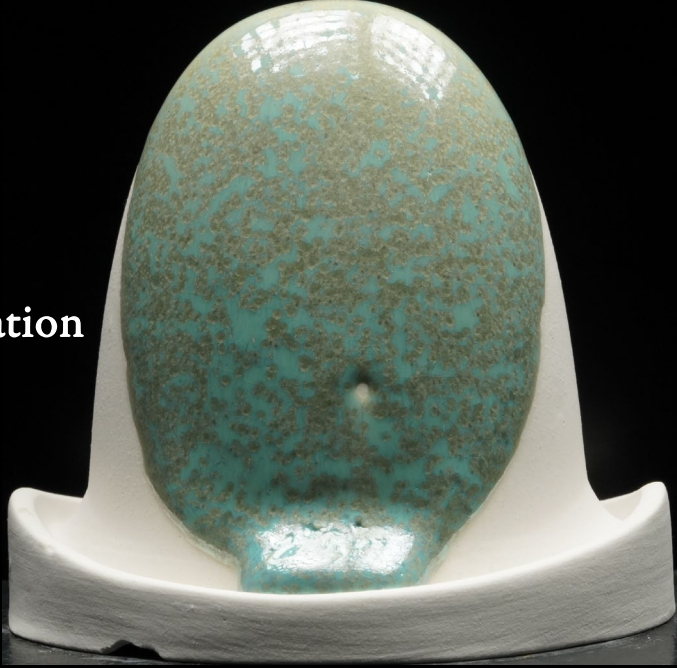
Freckles

Original
071022-1

Neph Sy	38.96
Whiting	8.99
Zinc Oxide	16.98
EPK	4.99
Flint	27.97
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.00
Water	60



1-3 Second Dip



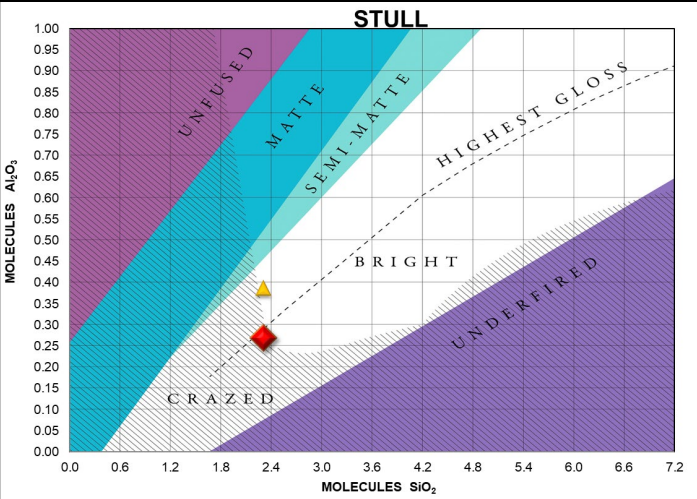
2-3 Second Dips



Reduction

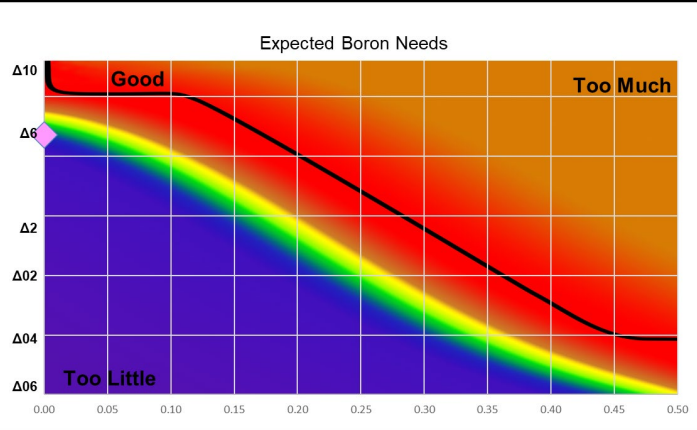
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.58 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.95 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.00	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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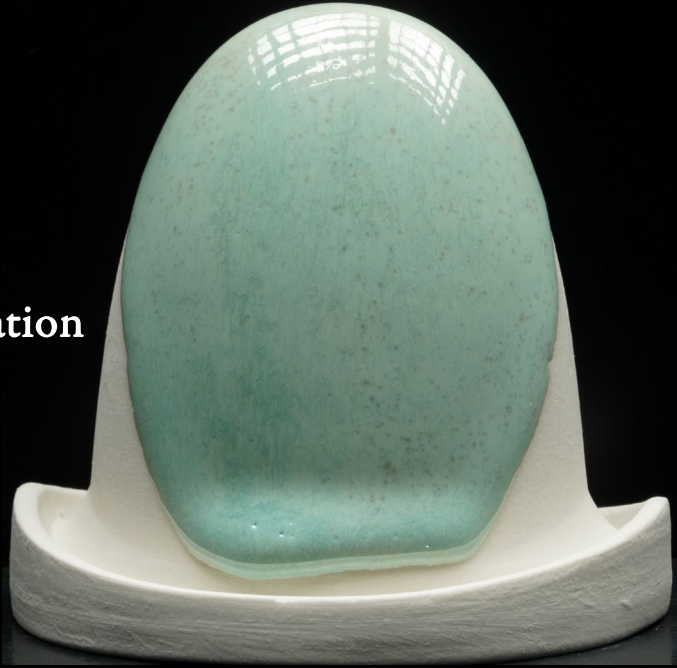
Freckles

Chemical Match
G200 EU Feldspar
071022-34

G200 EU	55.42
Whiting	8.43
Zinc Oxide	16.76
EPK	2.99
Flint	14.39
Bentonite	2.00
Copper Carbonate	1.48
Light Rutile	4.00
Water	60



1-3 Second Dip



2-3 Second Dips

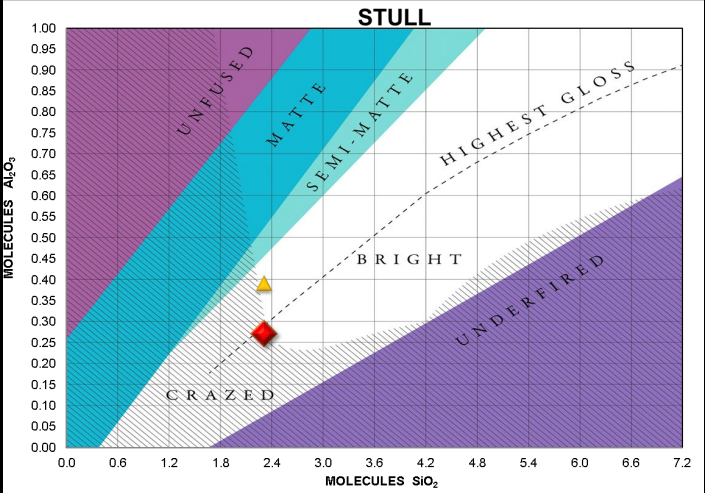


Reduction

Oxidation

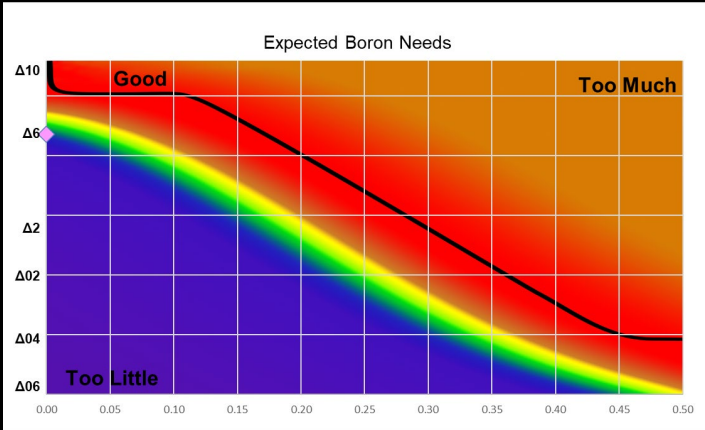
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.49 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.05	K ₂ O 0.17	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.89 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.05	K ₂ O 0.16	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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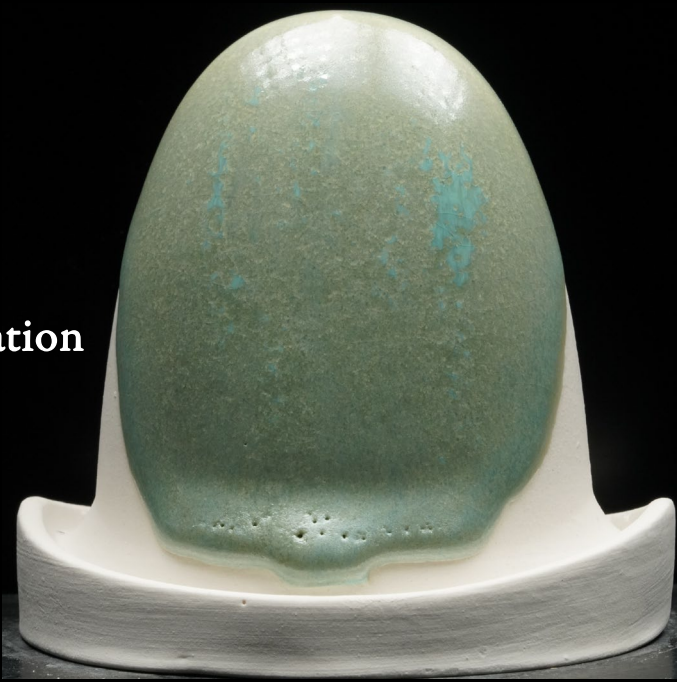
Freckles

Chemical Match
Minspar Feldspar
071022-35

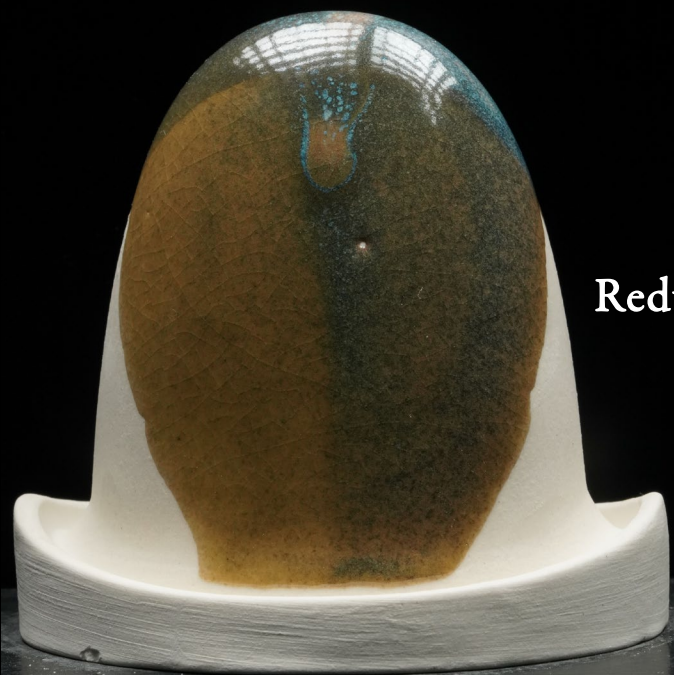
Minspar	57.85
Whiting	8.05
Zinc Oxide	17.11
EPK	
Flint	14.88
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	65



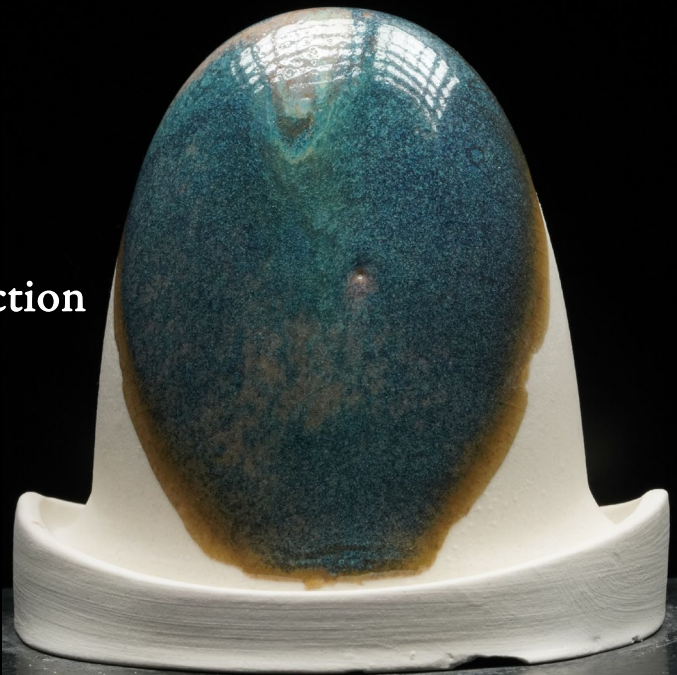
1-3 Second Dip



2-3 Second Dips



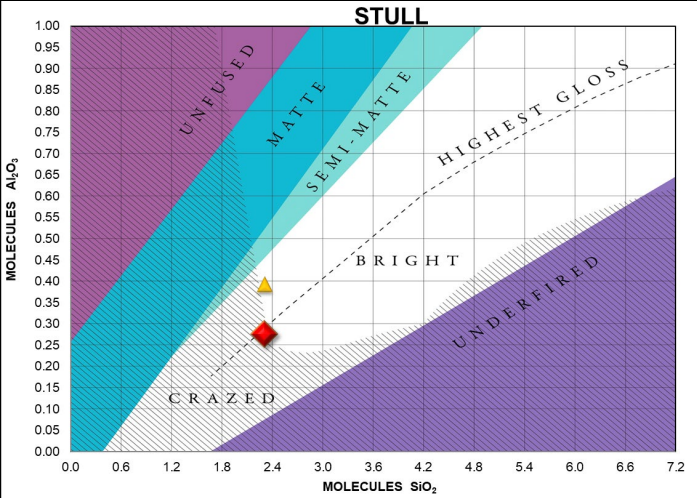
Reduction



Oxidation

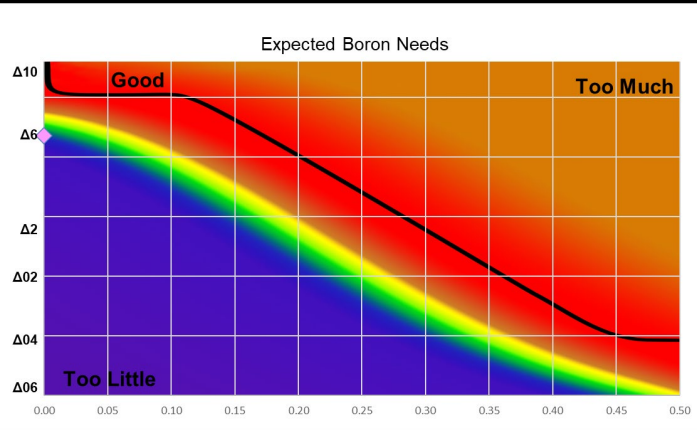
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.41 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.15	K ₂ O 0.06	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO 0.00	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.88 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.15	K ₂ O 0.06	MgO 0.00	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO 0.00	BaO 0.00
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Freckles

Chemical Match
Custer Feldspar
071022-36

Custer	56.24
Whiting	8.57
Zinc Oxide	16.70
EPK	3.72
Flint	12.66
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip

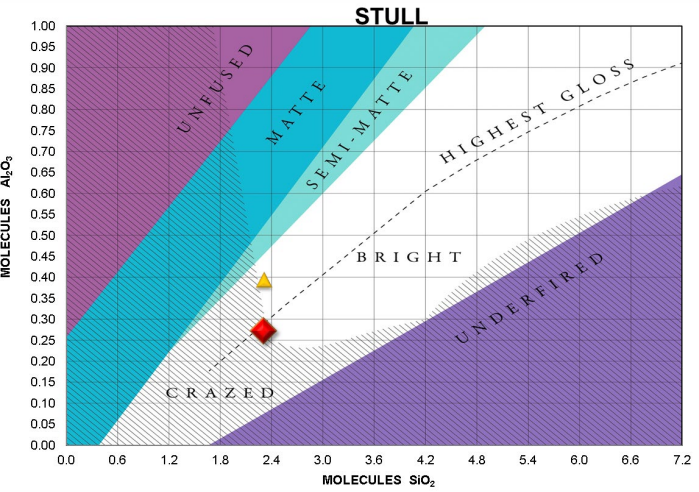


2-3 Second Dips

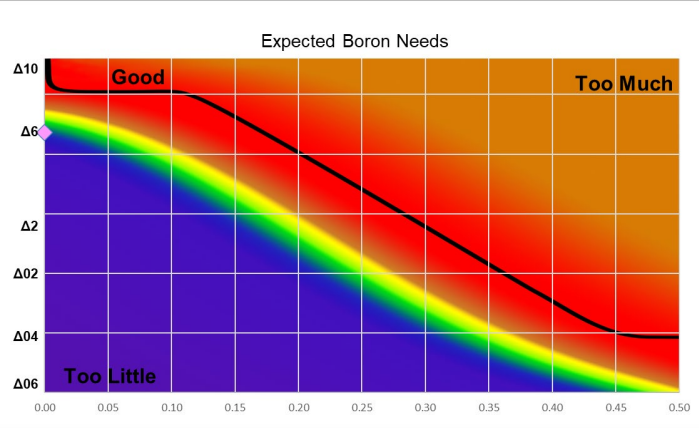


Reduction

SiO ₂ :Al ₂ O ₃ Ratio 8.42 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.05	K ₂ O 0.16	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



SiO ₂ :Al ₂ O ₃ Ratio 5.84 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.05	K ₂ O 0.16	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Freckles

Chemical Match
Mahavir Feldspar
071022-37

Mahavir	47.77
Whiting	8.84
Zinc Oxide	16.70
EPK	5.58
Flint	19.00
Bentonite	2.11
Copper Carbonate	1.47
Light Rutile	4.01
Water	60



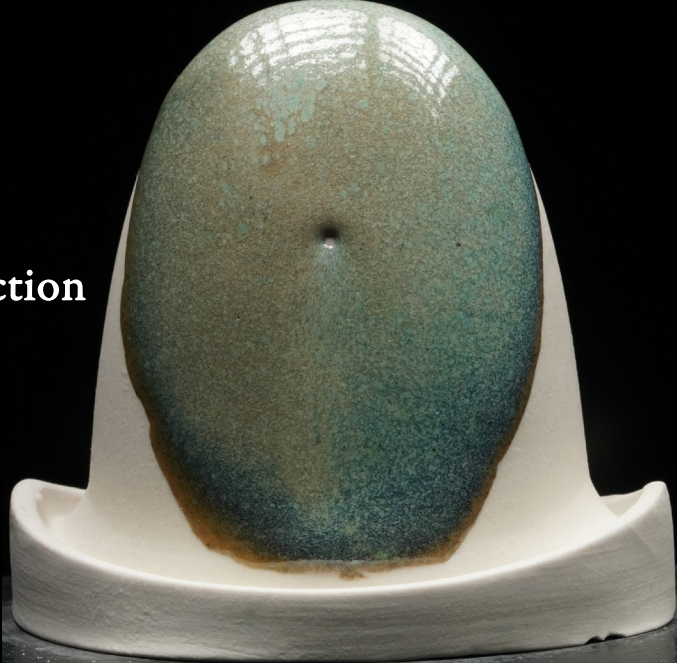
1-3 Second Dip



2-3 Second Dips



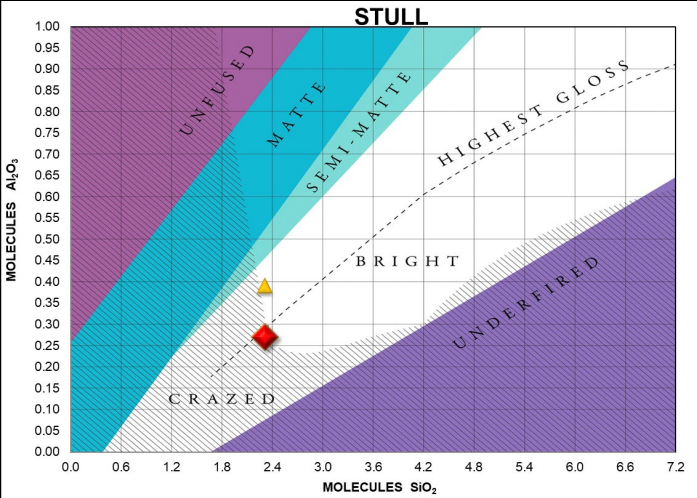
Reduction



Oxidation

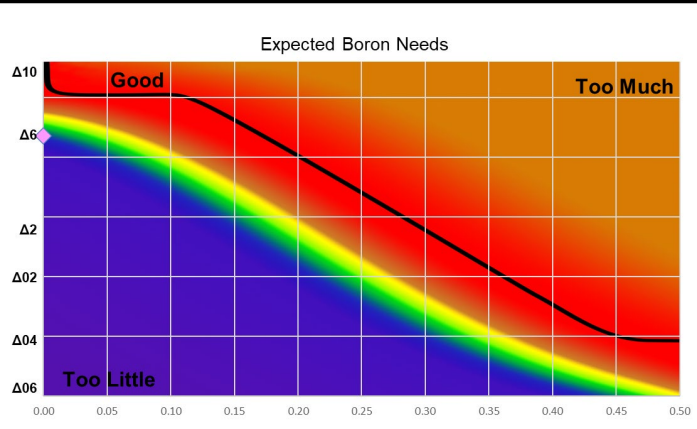
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.54 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.06	K ₂ O 0.15	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.90 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.06	K ₂ O 0.15	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

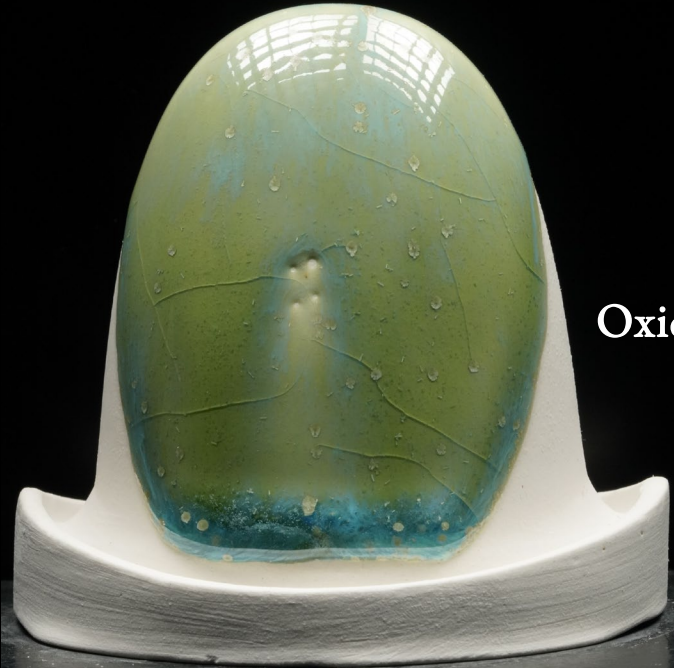


Ceramic
Materials
Workshop

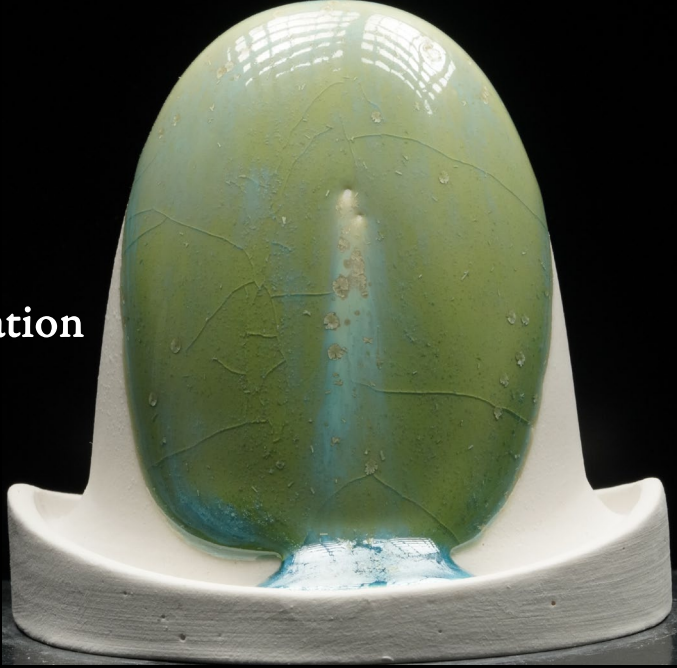
Freckles

Chemical Match
Spodumene
071022-38

Spodumene	33.20
Whiting	9.46
Zinc Oxide	17.47
EPK	5.83
Flint	31.93
Bentonite	2.11
Copper Carbonate	1.49
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

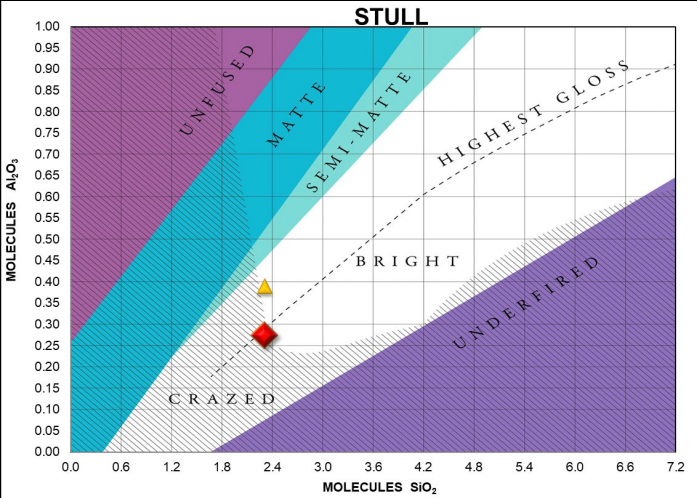
Oxidation



Reduction

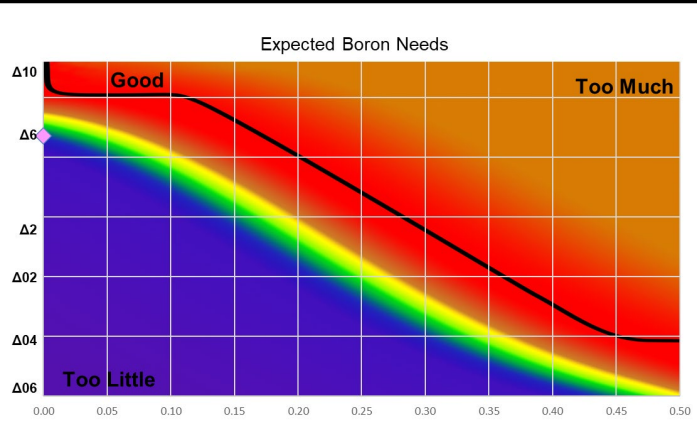
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.41 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.92 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

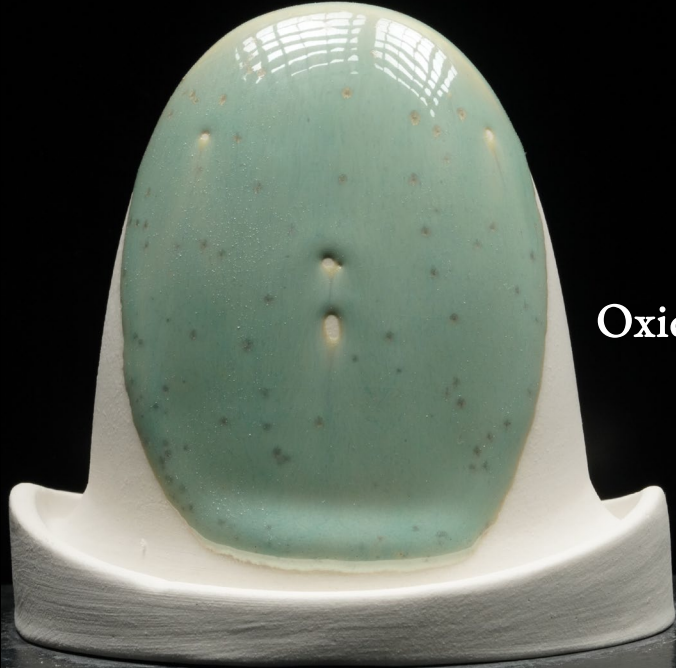


Ceramic
Materials
Workshop

Freckles

Chemical Match
Frit 3110
071022-40

3110	29.20
Whiting	5.67
Zinc Oxide	16.69
EPK	25.50
Flint	20.83
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip

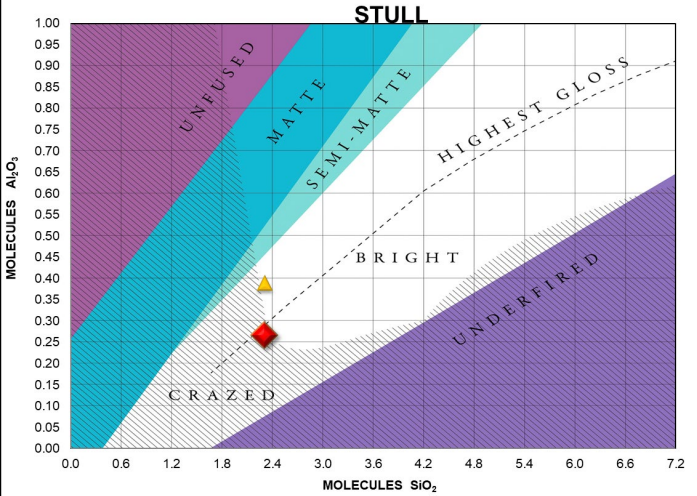


2-3 Second Dips

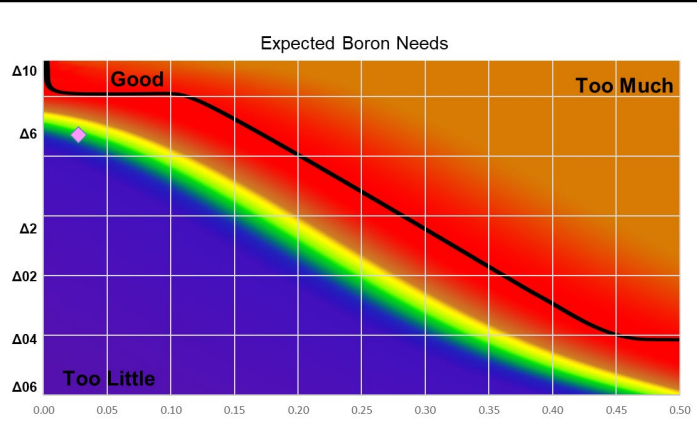


Reduction

SiO ₂ :Al ₂ O ₃ Ratio 8.57 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.19	K ₂ O 0.02	MgO 0.01	CaO 0.23
B ₂ O ₃ 0.03	Al ₂ O ₃ 0.27	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



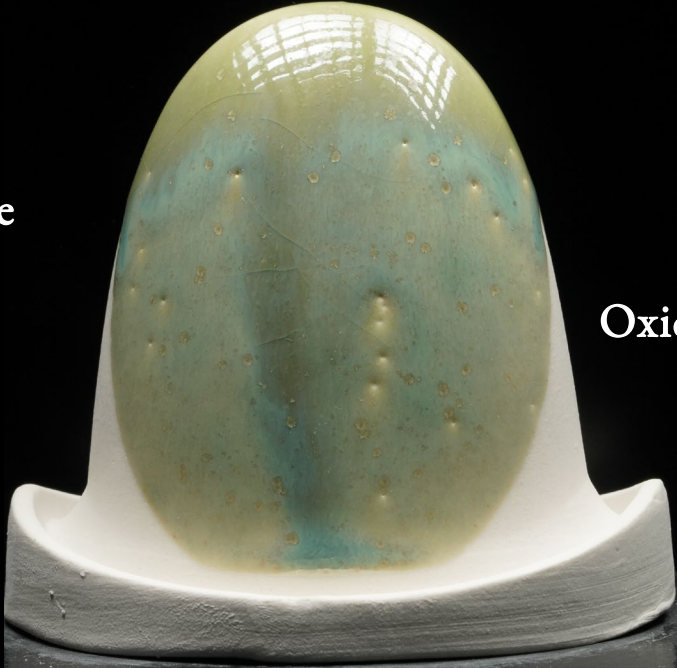
SiO ₂ :Al ₂ O ₃ Ratio 5.91 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.19	K ₂ O 0.02	MgO 0.01	CaO 0.23
B ₂ O ₃ 0.03	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



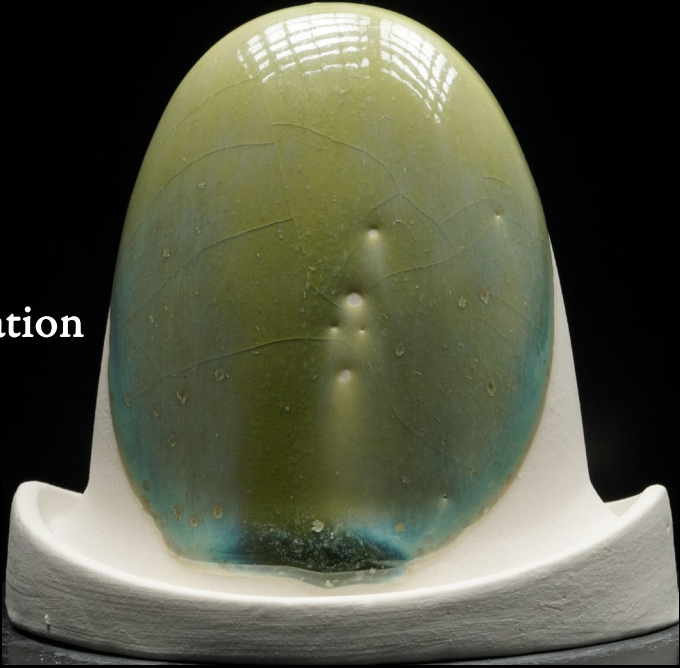
Freckles

Chemical Match
Lithium Carbonate
071022-42

Lithium Carb	5.74
Whiting	8.84
Zinc Oxide	16.20
EPK	28.28
Flint	38.83
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	70



1-3 Second Dip



2-3 Second Dips

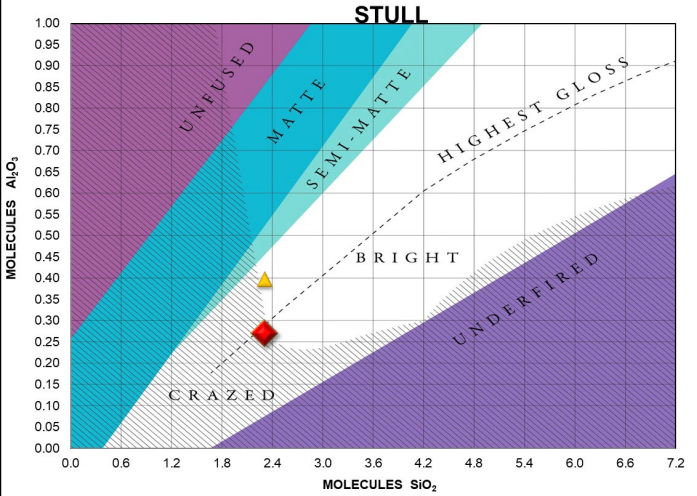


Reduction



Oxidation

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 8.43 : 1		0.21		0.79	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.53	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 5.81 : 1		0.24		0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O 0.20	CuO 0.03	SrO	BaO
TiO ₂ 0.13	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.51	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
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Freckles

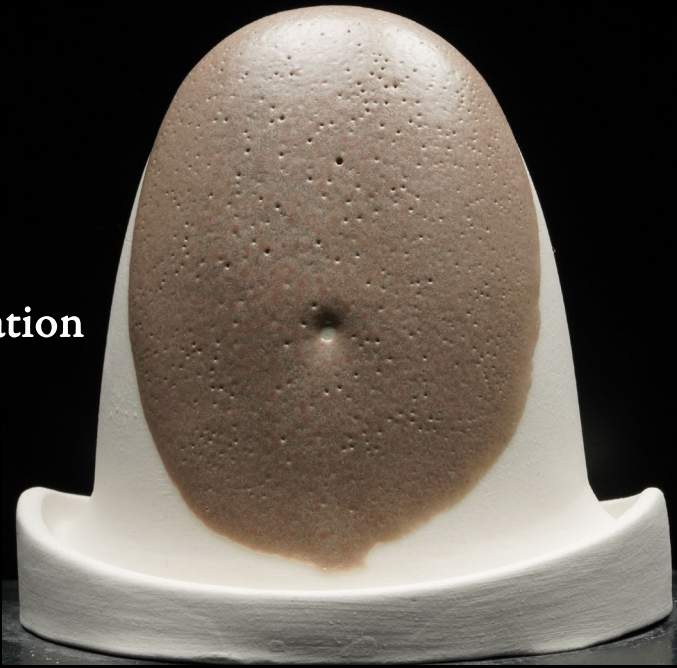
Chemical Match
Talc

071022-43

Neph Sy	40.75
Talc	11.33
Zinc Oxide	17.66
EPK	5.69
Flint	22.45
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

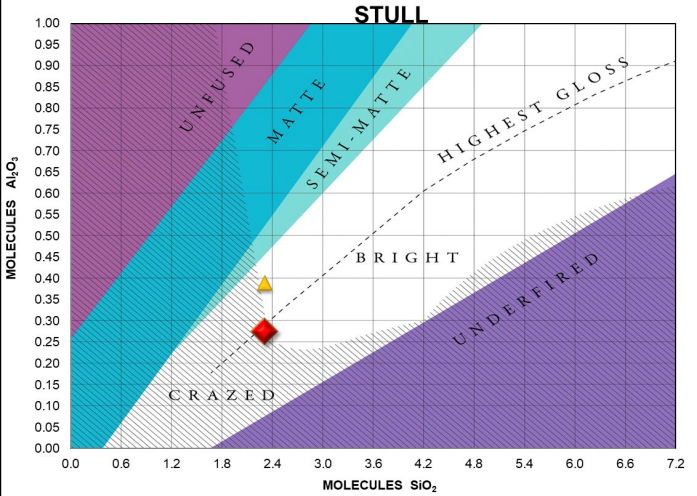


Reduction



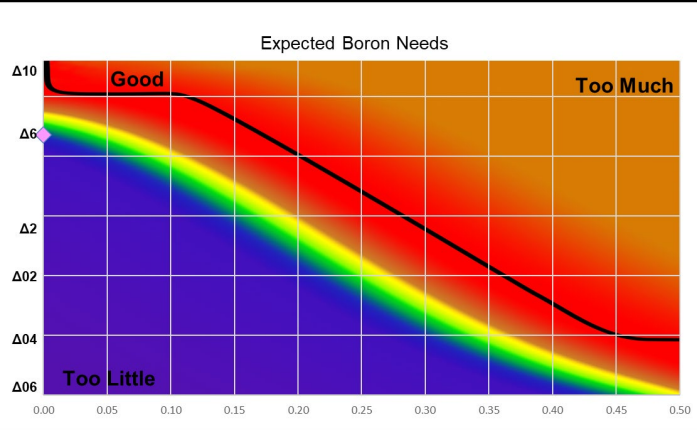
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.40 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.21	CaO 0.02
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.92 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.20	CaO 0.02
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

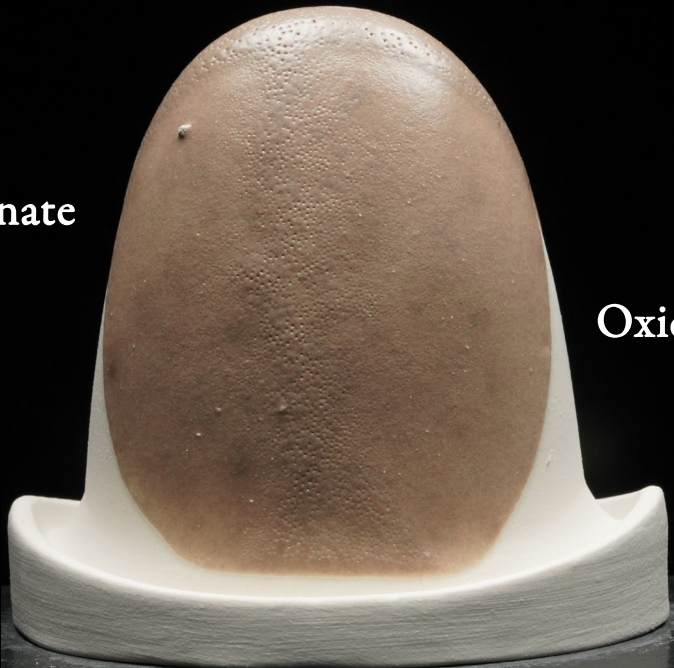


Ceramic
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Workshop

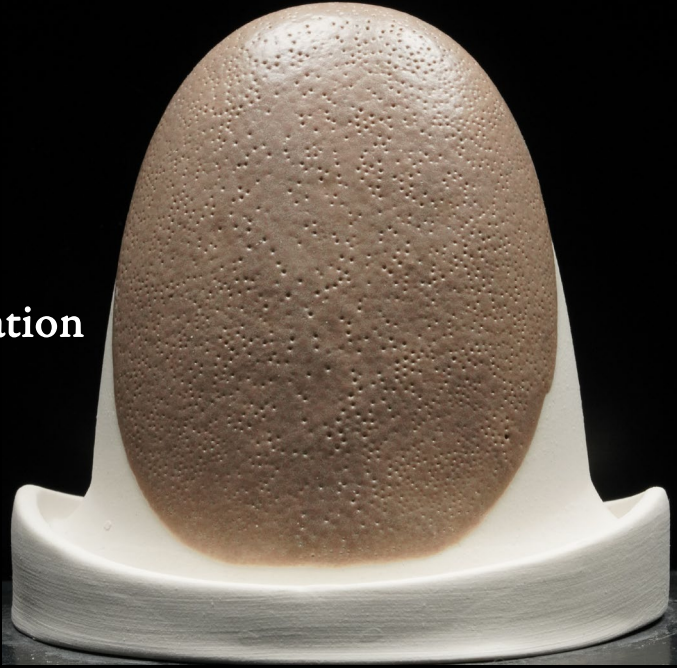
Freckles

Chemical Match
Magnesium Carbonate
071022-44

Neph Sy	40.57
Mag Carbonate	7.37
Zinc Oxide	17.18
EPK	4.84
Flint	27.93
Bentonite	2.11
Copper Carbonate	1.47
Light Rutile	4.01
Water	95



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip

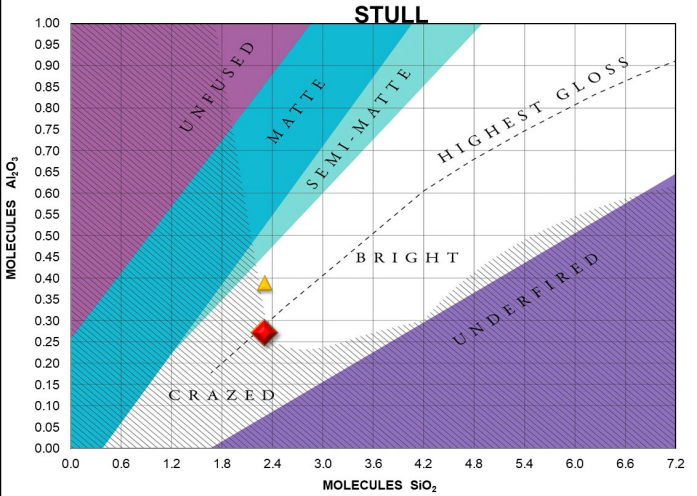


2-3 Second Dips

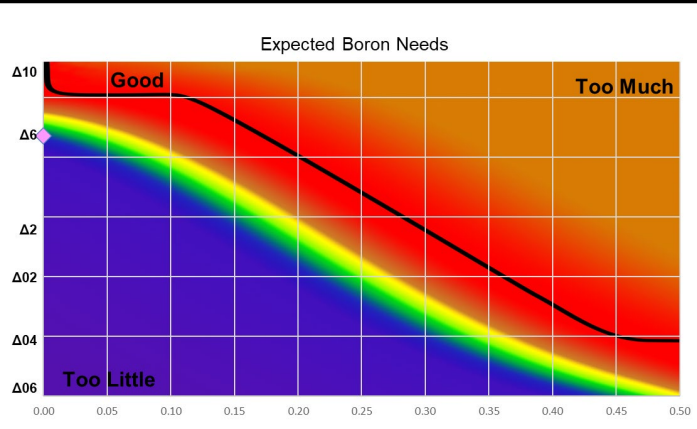
Oxidation

Reduction

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 8.48 :1		0.22		0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.23	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 5.92 :1		0.24		0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.22	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
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Freckles

Chemical Match
Dolomite
071022-45

Neph Sy	39.28
Dolomite	8.55
Zinc Oxide	16.77
EPK	5.61
Flint	27.68
Bentonite	2.11
Copper Carbonate	1.47
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

Oxidation



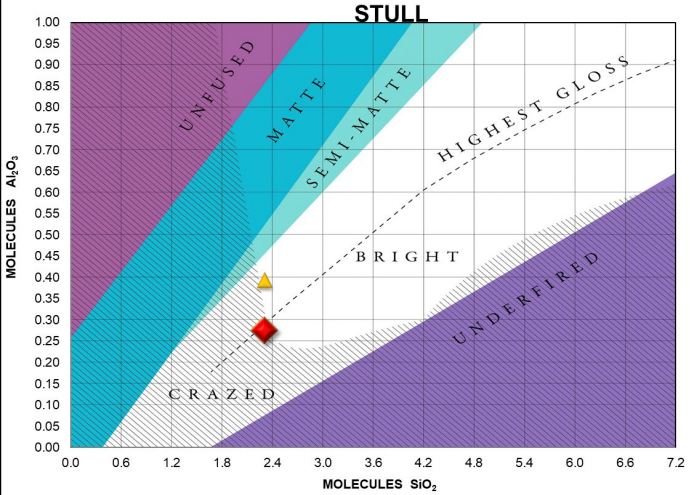
1-3 Second Dip



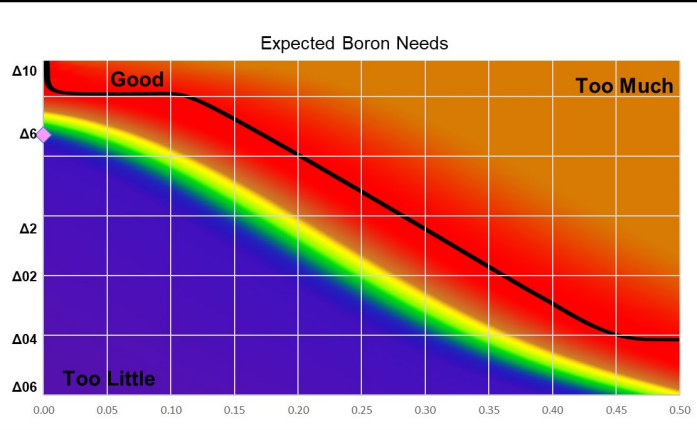
2-3 Second Dips

Reduction

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 8.39 : 1		0.22		0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.12	CaO 0.13
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.53	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 5.86 : 1		0.24		0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.12	CaO 0.12
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.51	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

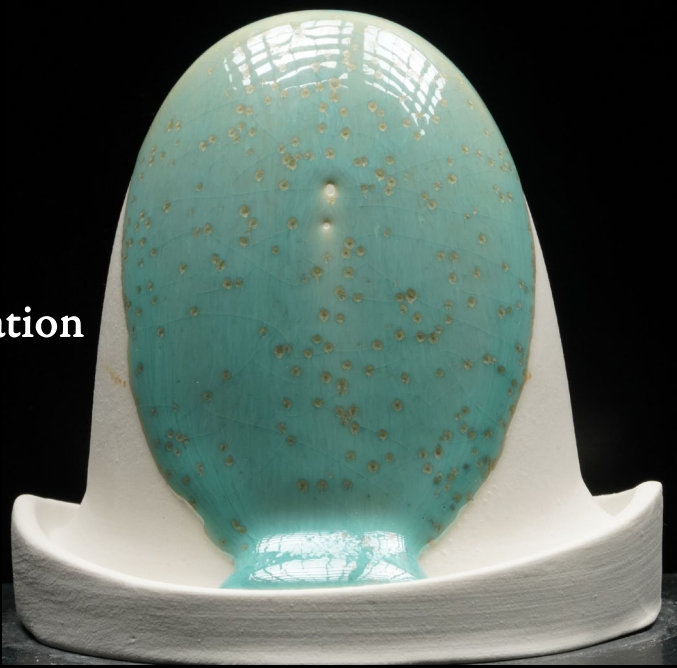
Freckles

Chemical Match
Wollastonite
071022-46

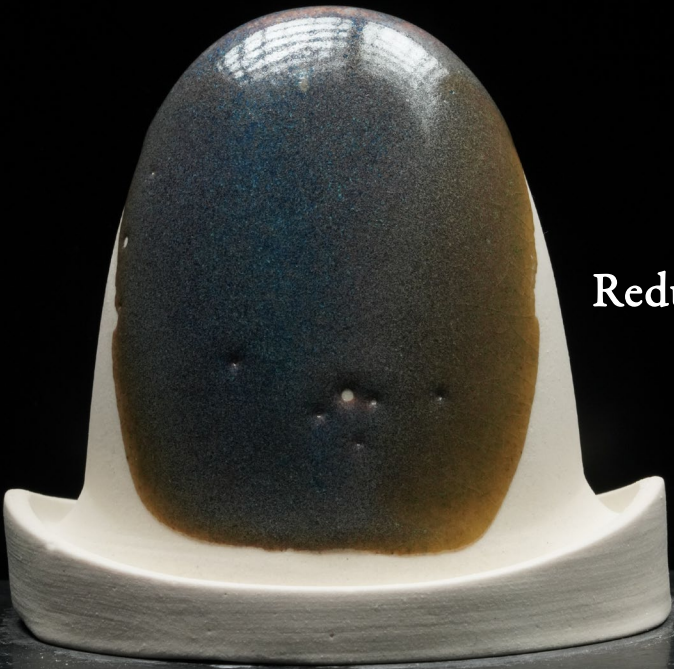
Neph Sy	40.63
Wollastonite	11.44
Zinc Oxide	17.51
EPK	5.58
Flint	22.73
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



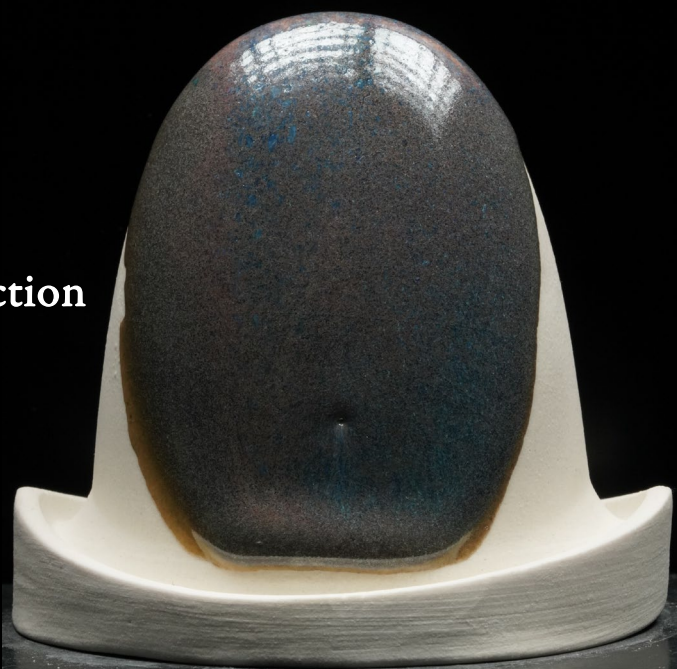
1-3 Second Dip



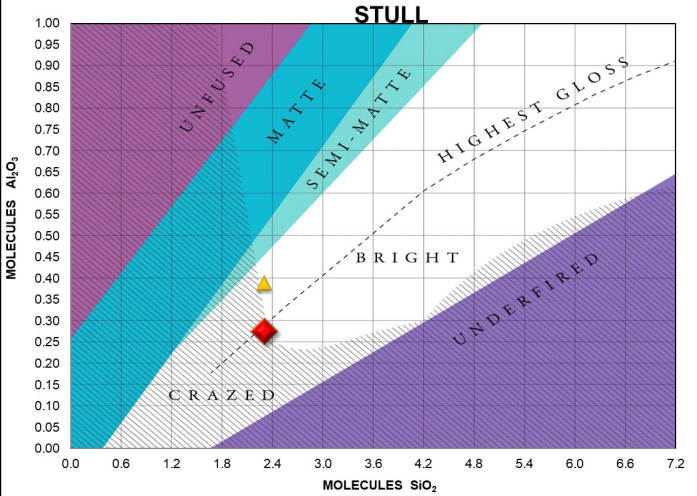
2-3 Second Dips



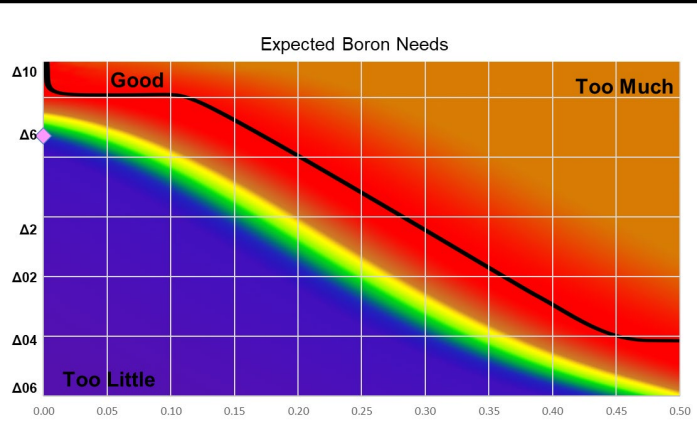
Reduction



UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 8.38 : 1		0.22		0.78	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.53	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 5.91 : 1		0.24		0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.22
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Freckles

Chemical Match
Strontium Carbonate
071022-47

Neph Sy	37.22
Strontium Carb	12.50
Zinc Oxide	16.34
EPK	5.36
Flint	26.48
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

Oxidation



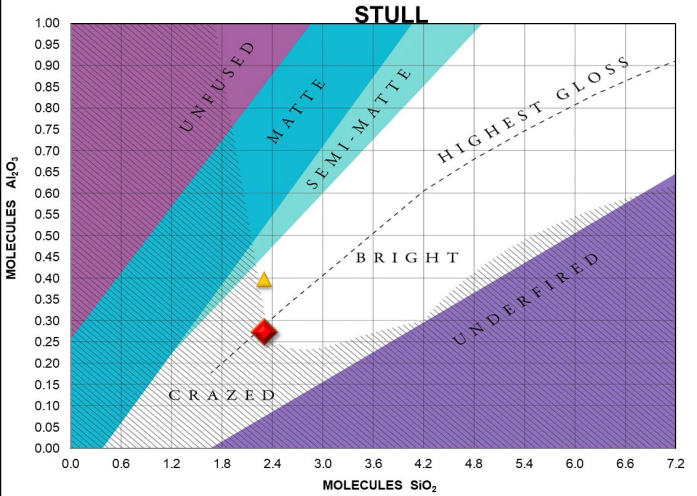
1-3 Second Dip



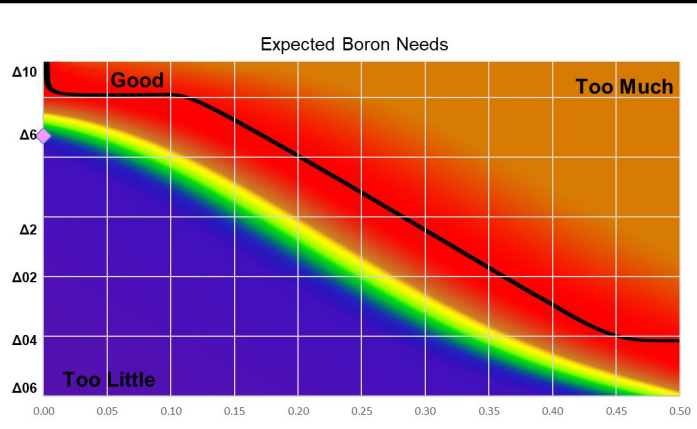
2-3 Second Dips

Reduction

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio		0.22		0.78	
SiO ₂	Collective "Al ₂ O ₃ "	Na ₂ O	K ₂ O	MgO	CaO
2.38	0.28	0.17	0.05	0.00	0.01
B ₂ O ₃	Al ₂ O ₃	Li ₂ O	CuO	SrO	BaO
	0.28			0.23	
TiO ₂	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO
0.00				0.54	0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio		0.24		0.76	
SiO ₂	Collective "Al ₂ O ₃ "	Na ₂ O	K ₂ O	MgO	CaO
2.31	0.40	0.16	0.05	0.00	0.01
B ₂ O ₃	Al ₂ O ₃	Li ₂ O	CuO	SrO	BaO
	0.27		0.03	0.22	
TiO ₂	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO
0.13				0.52	0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
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Freckles

Chemical Match
Barium Carbonate
071022-48

Neph Sy	35.32
Barium Carb	16.23
Zinc Oxide	15.60
EPK	4.97
Flint	25.77
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips



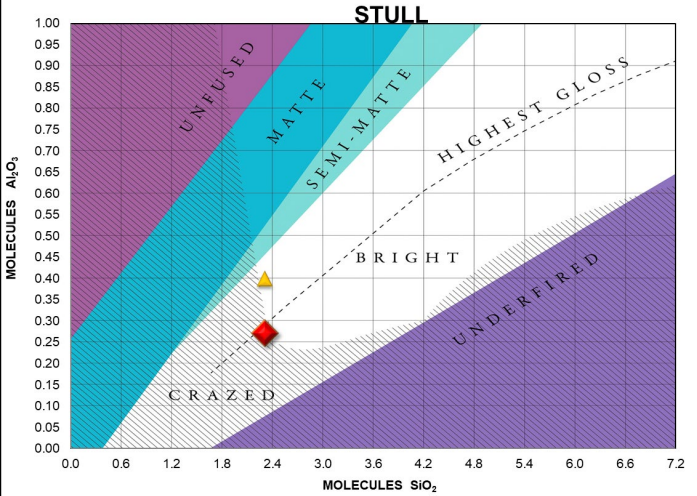
Reduction



Oxidation

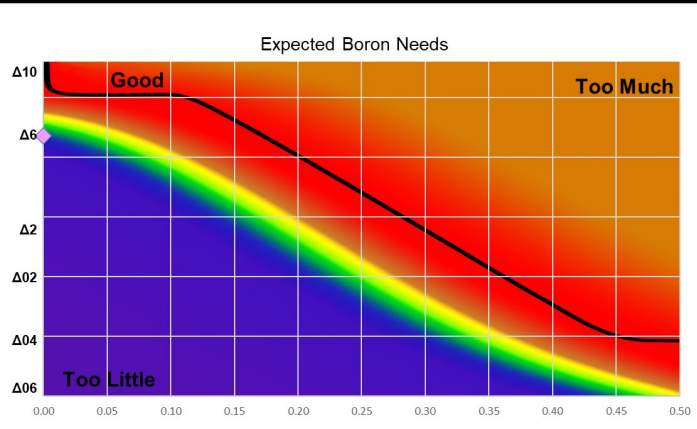
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.54 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.39	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO 0.23
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.77 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO 0.22
TiO ₂ 0.13	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.52	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
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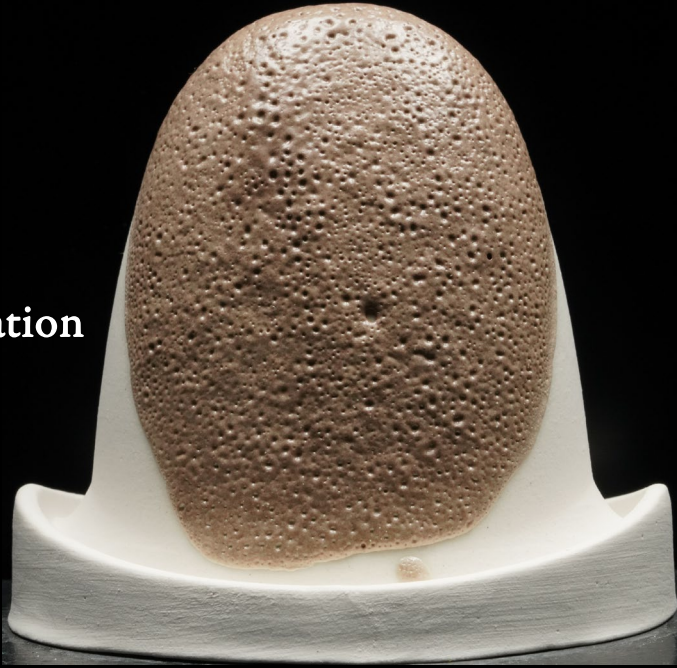
Freckles

Chemical Match
Zinc Oxide
071022-49

Neph Sy	39.95
Zinc Oxide	24.68
EPK	4.75
Flint	28.52
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

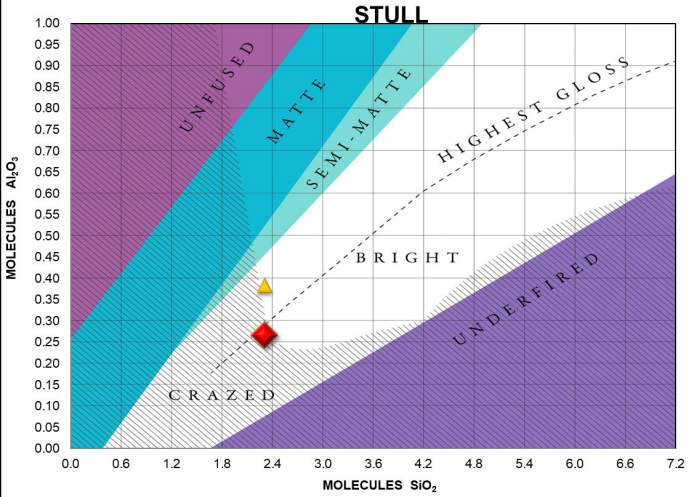


Reduction

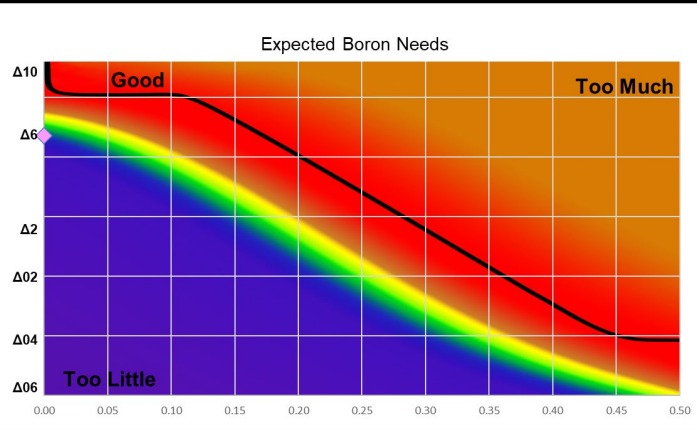


Oxidation

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio		0.22		0.78	
SiO ₂	2.38	Na ₂ O	0.17	MgO	0.00
B ₂ O ₃	0.28	K ₂ O	0.05	CaO	0.01
Al ₂ O ₃	0.27	Li ₂ O		SrO	
TiO ₂	0.00	Bi ₂ O ₃		ZnO	0.77
Cr ₂ O ₃		P ₂ O ₅		FeO	0.00
				MnO ₂	CoO



EUMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio		0.24		0.76	
SiO ₂	2.31	Na ₂ O	0.17	MgO	0.00
B ₂ O ₃	0.38	K ₂ O	0.05	CaO	0.01
Al ₂ O ₃	0.27	Li ₂ O		SrO	
TiO ₂	0.12	Bi ₂ O ₃		ZnO	0.74
Cr ₂ O ₃		P ₂ O ₅		FeO	0.00
				MnO ₂	CoO



Ceramic
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Freckles

Chemical Match

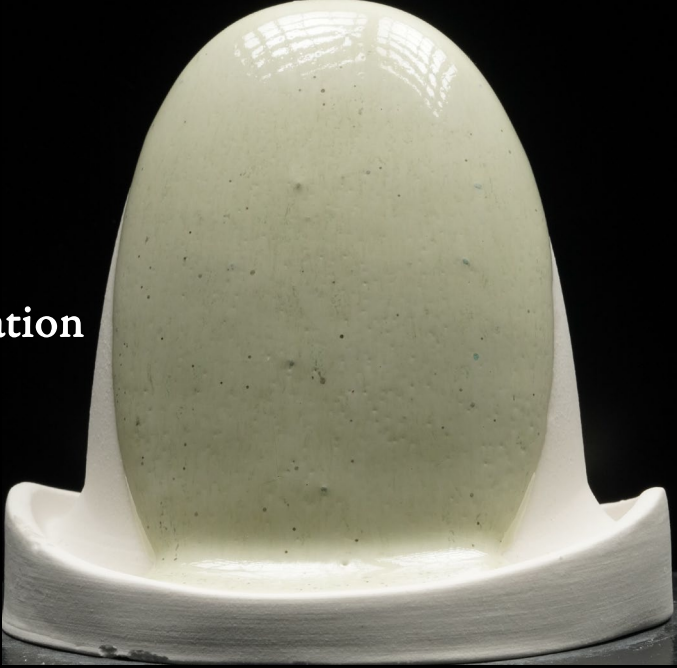
Bone Ash

071022-50

Neph Sy	37.12
Bone Ash	11.86
Zinc Oxide	16.53
EPK	5.56
Flint	26.82
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



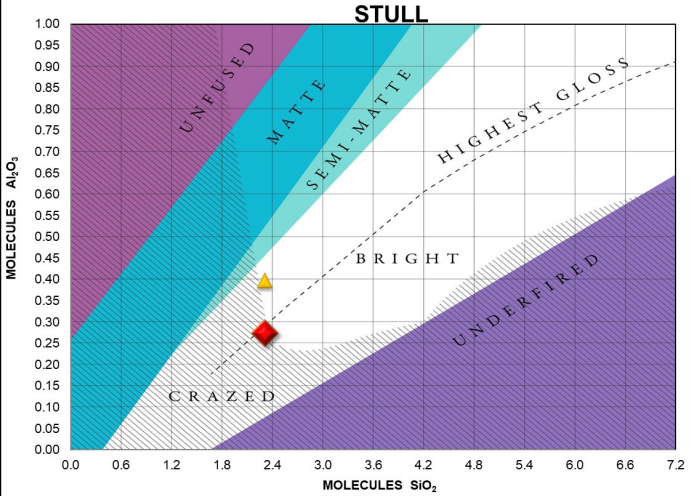
2-3 Second Dips



Reduction

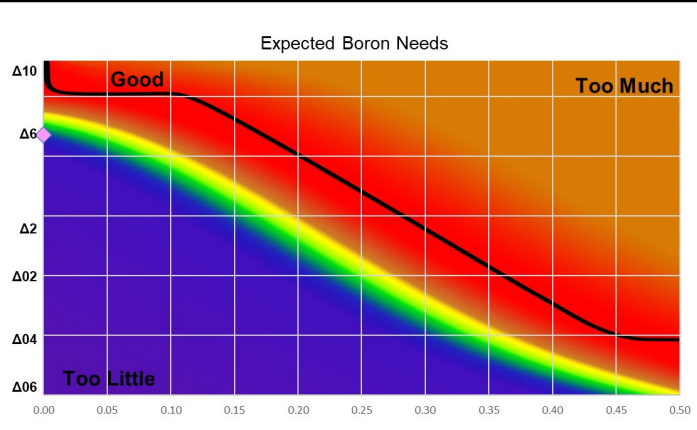
UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.44 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.39	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.12		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.81 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.53	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.12		MnO ₂	CoO



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