

Freckles- $\Delta 6$

Lab 3-Sili-Closeness

Freckles

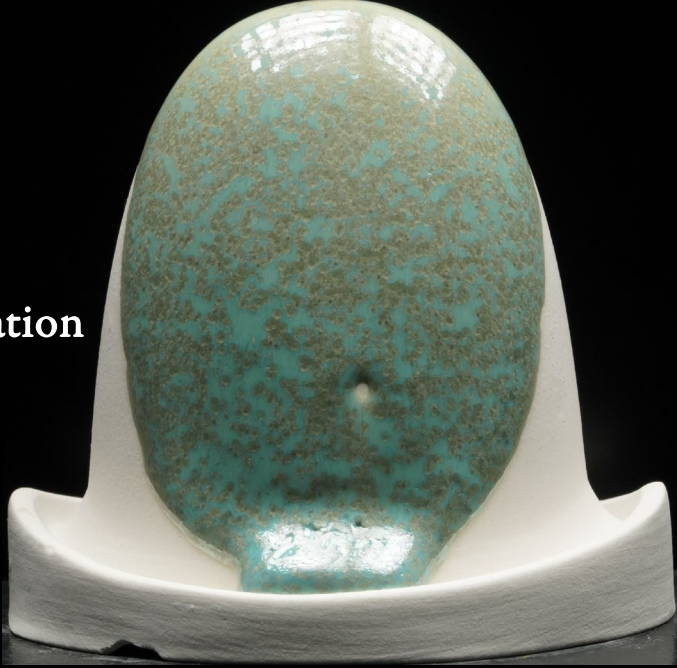
Original

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



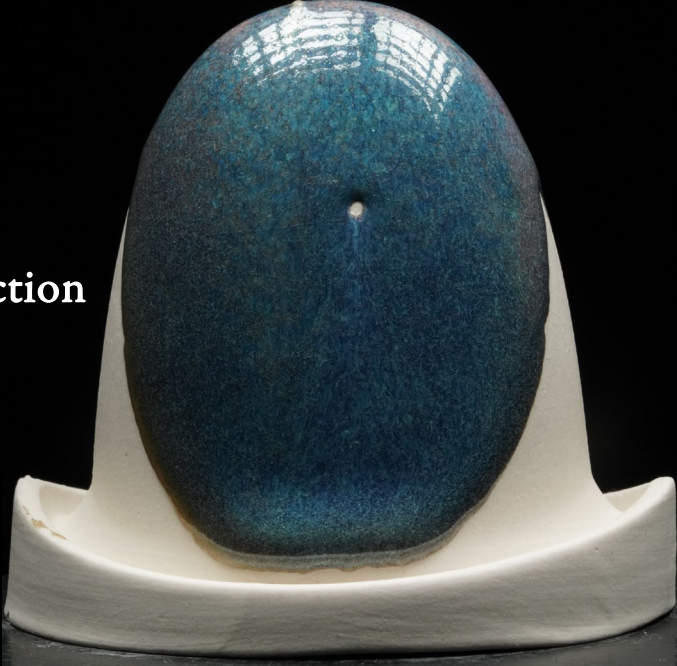
1-3 Second Dip



2-3 Second Dips

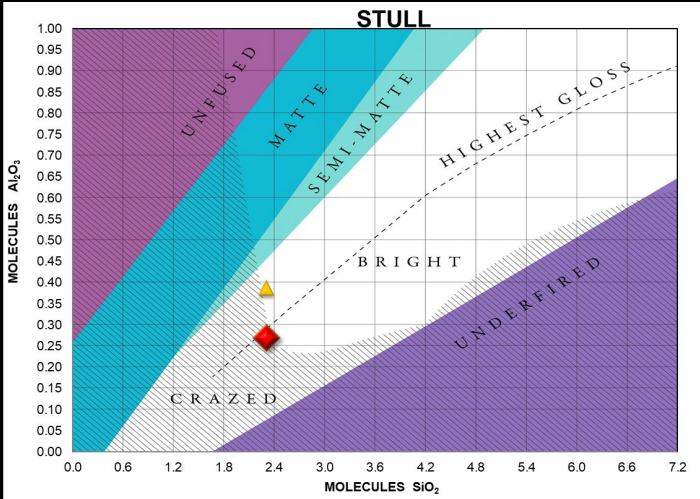


Reduction



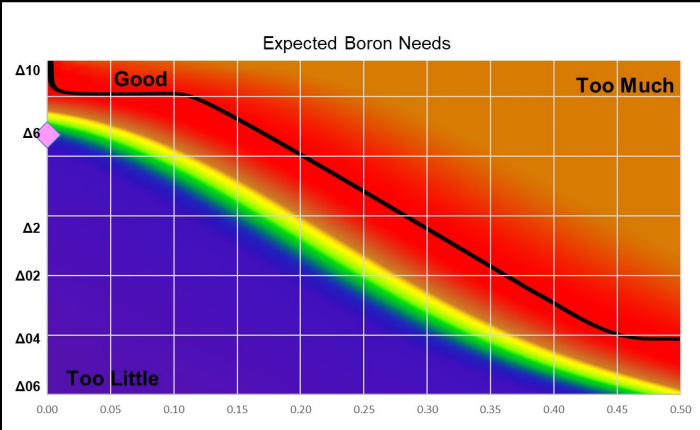
UMF

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

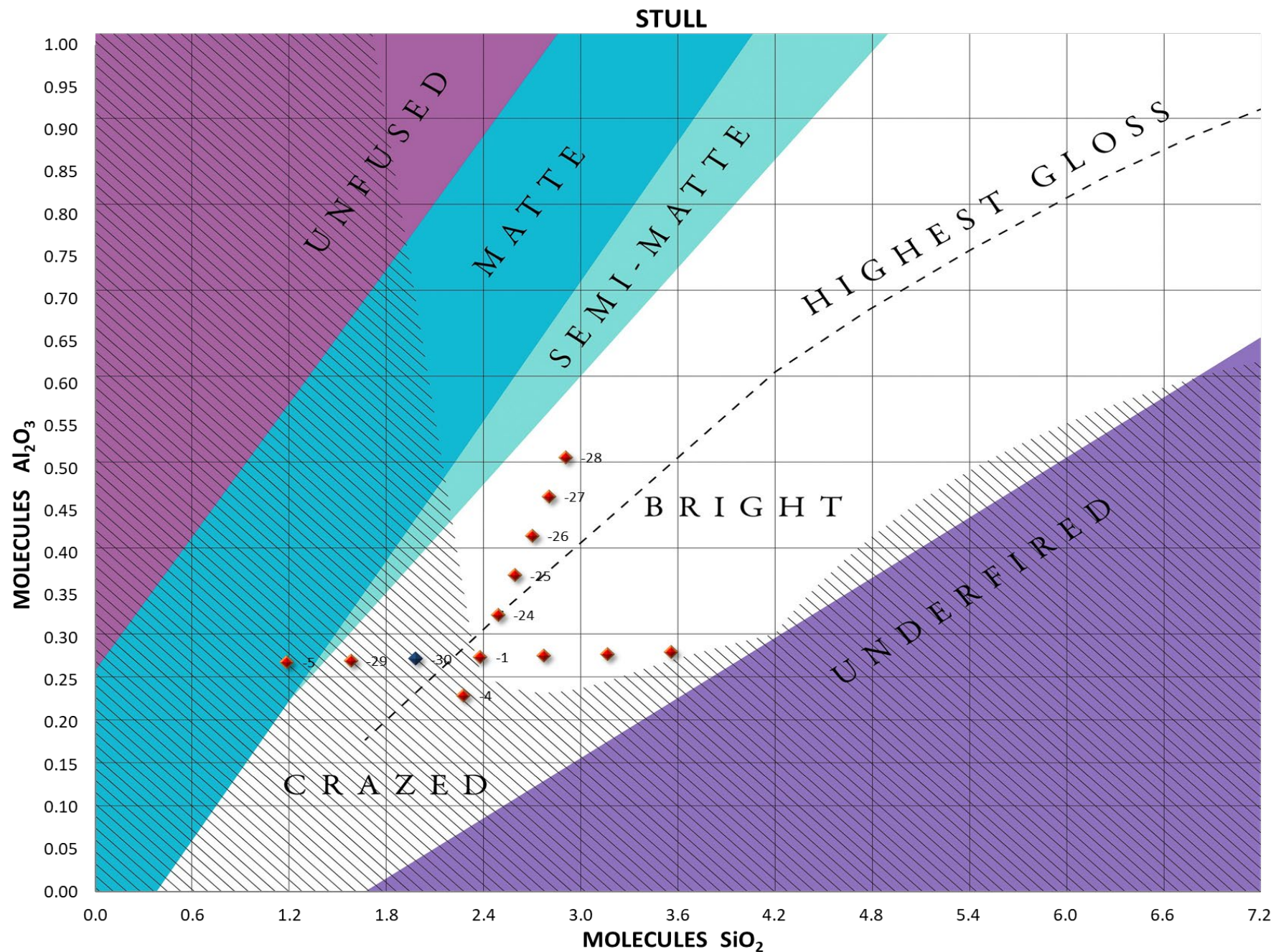


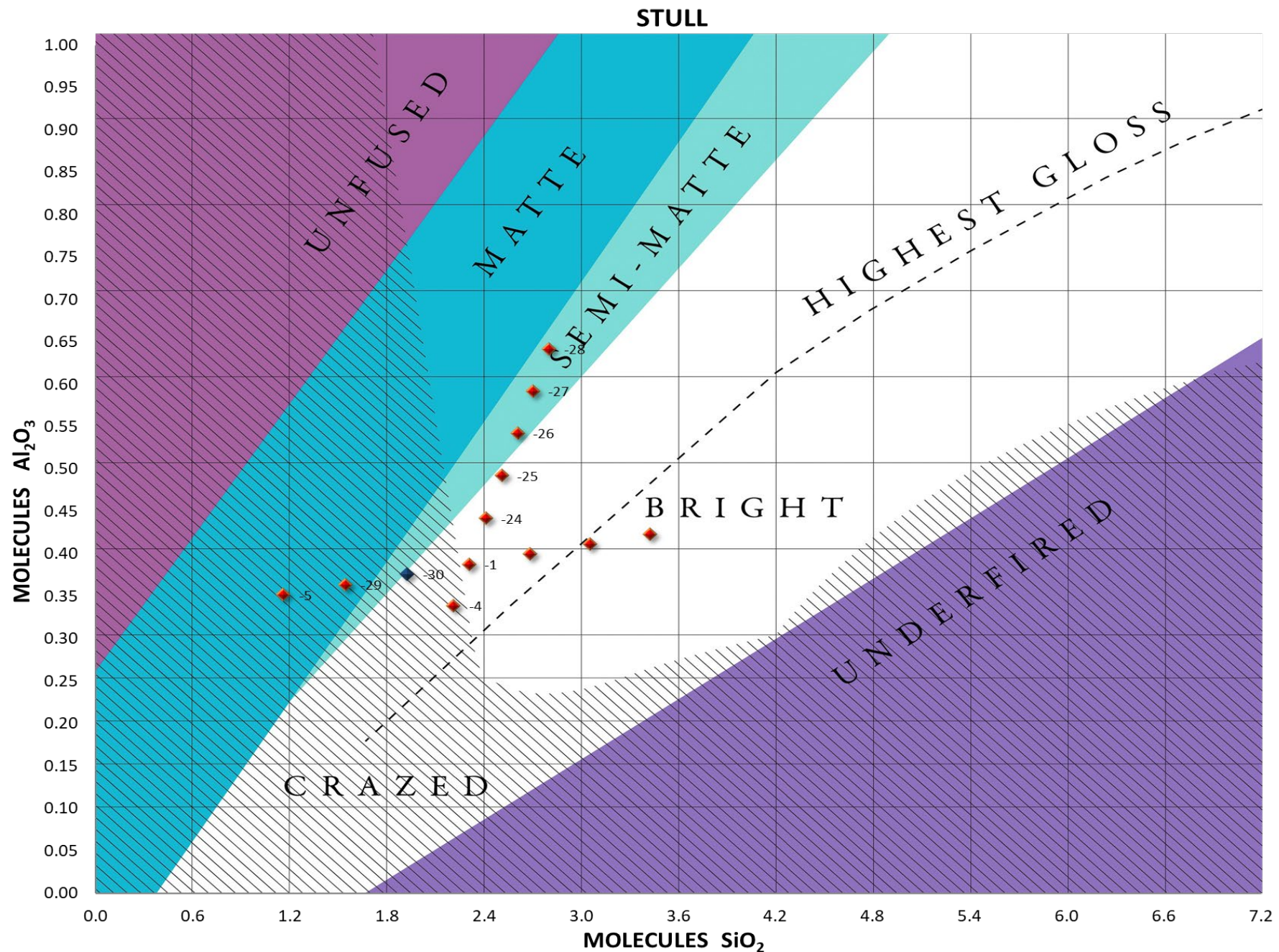
EUMF

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

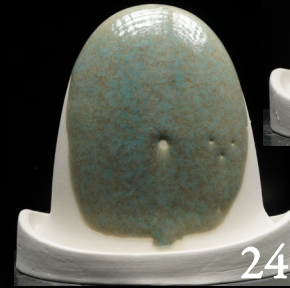
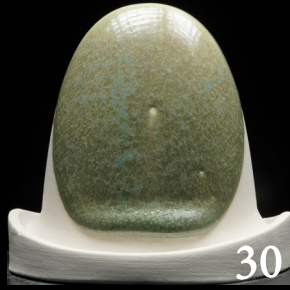
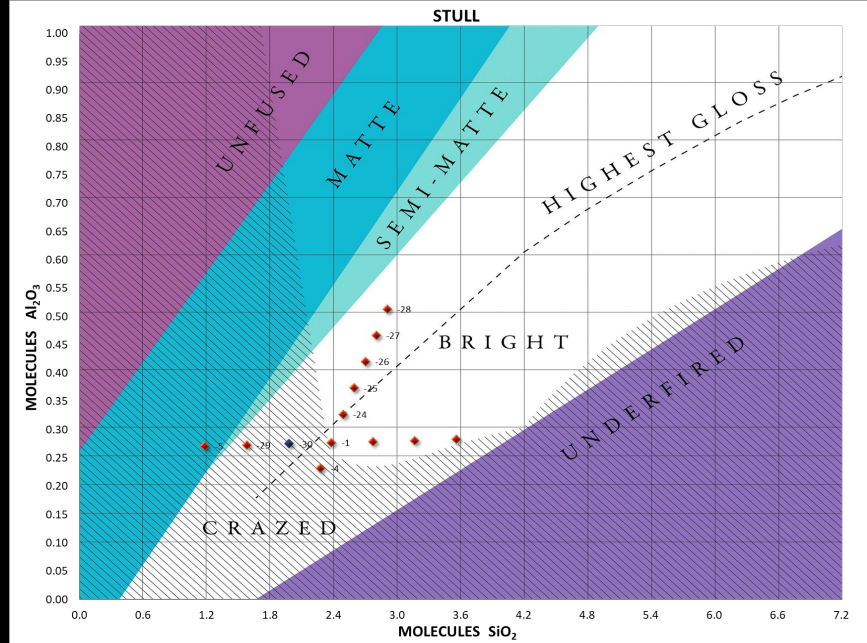


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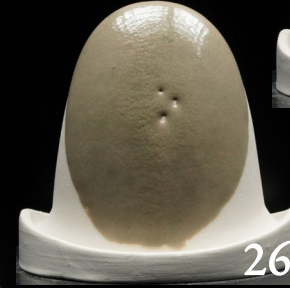
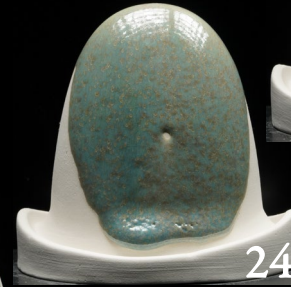
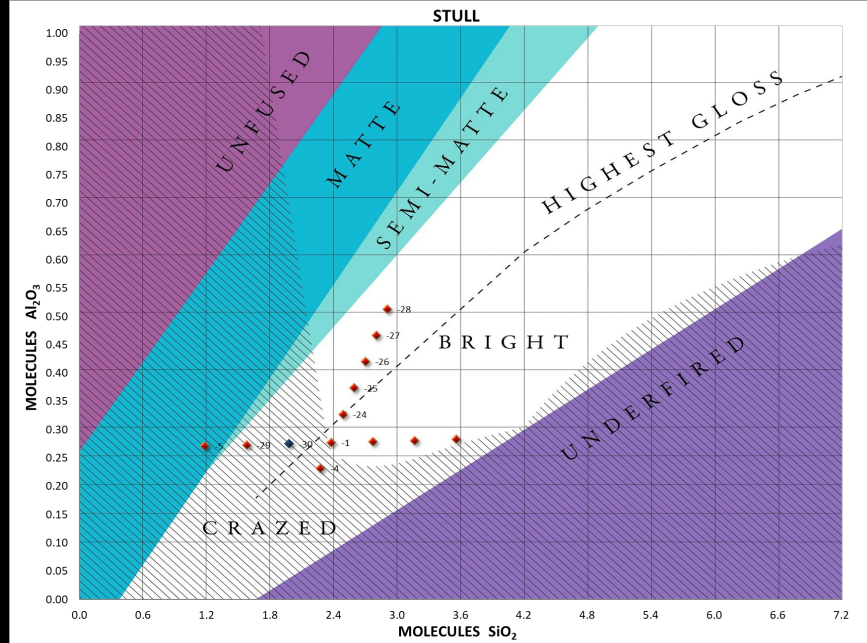
Full Test-Oxidation-1-3 Second Dip



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Full Test-Oxidation-2-3 Second Dips



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Silica Variations-Oxidation

1-3 Second Dip



071022-5

071022-29

071022-30

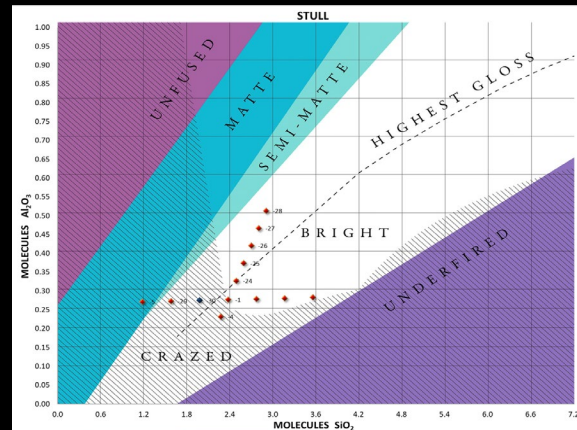
071022-1

071022-31

071022-32

071022-33

2-3 Second Dips



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Alumina Variations-Oxidation

1-3 Second Dip



071022-4



071022-24



071022-1



071022-25



071022-26

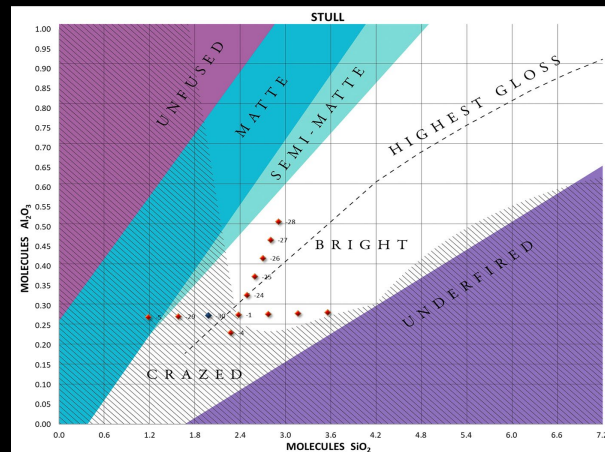


071022-27



071022-28

2-3 Second Dips

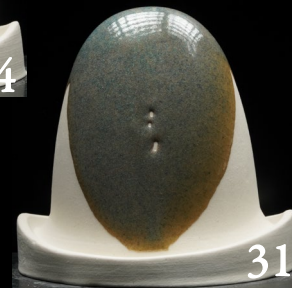
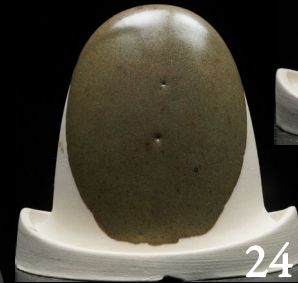
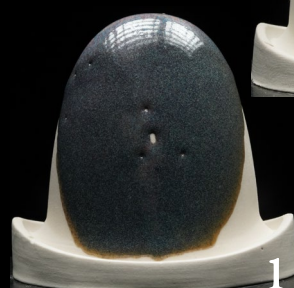
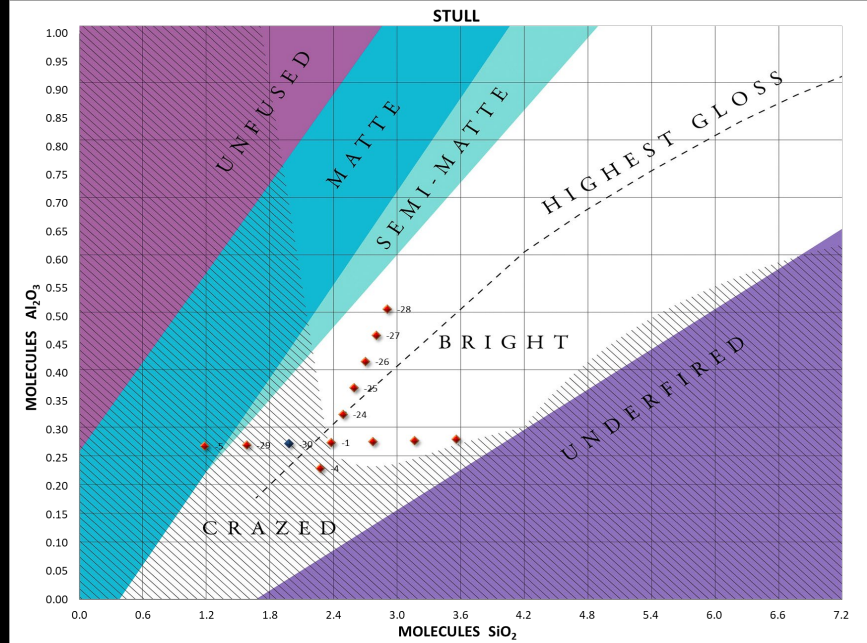


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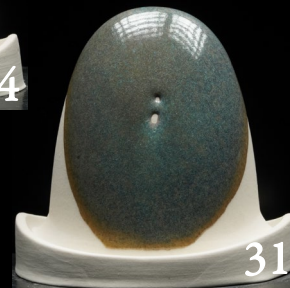
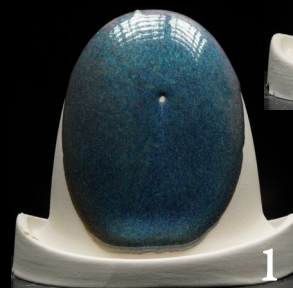
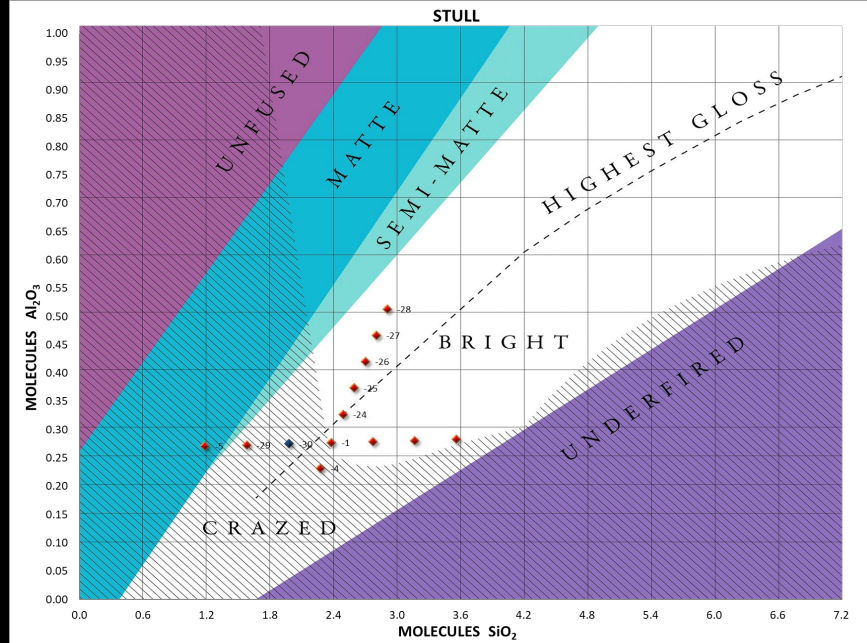
Full Test-Reduction-1-3 Second Dip



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Full Test-Reduction-2-3 Second Dips



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Silica Variations-Reduction

1-3 Second Dip



071022-5

071022-29

071022-30

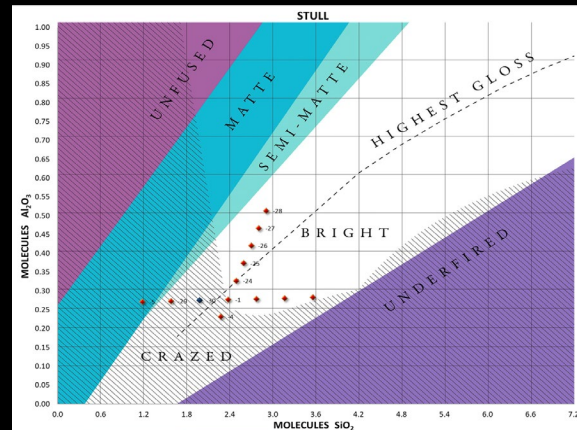
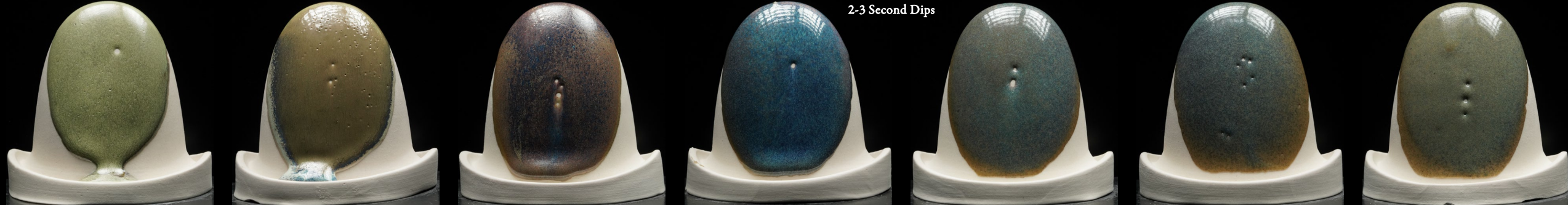
071022-1

071022-31

071022-32

071022-33

2-3 Second Dips



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Alumina Variations-Reduction

1-3 Second Dip



071022-1

071022-4

071022-24

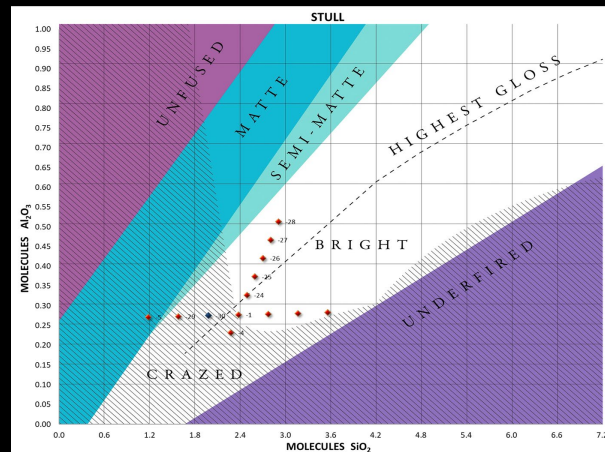
071022-25

071022-26

071022-27

071022-28

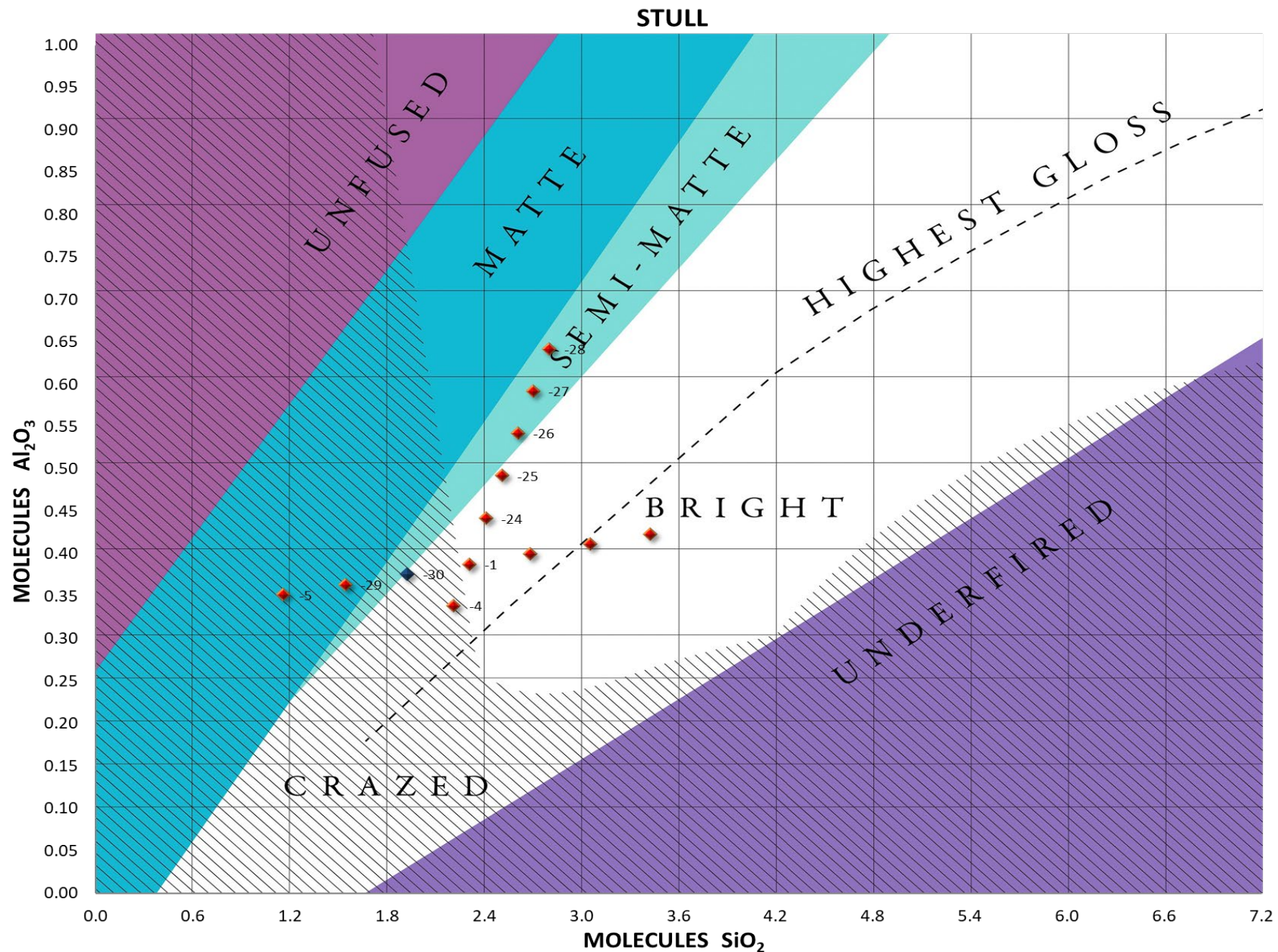
2-3 Second Dips



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Freckles

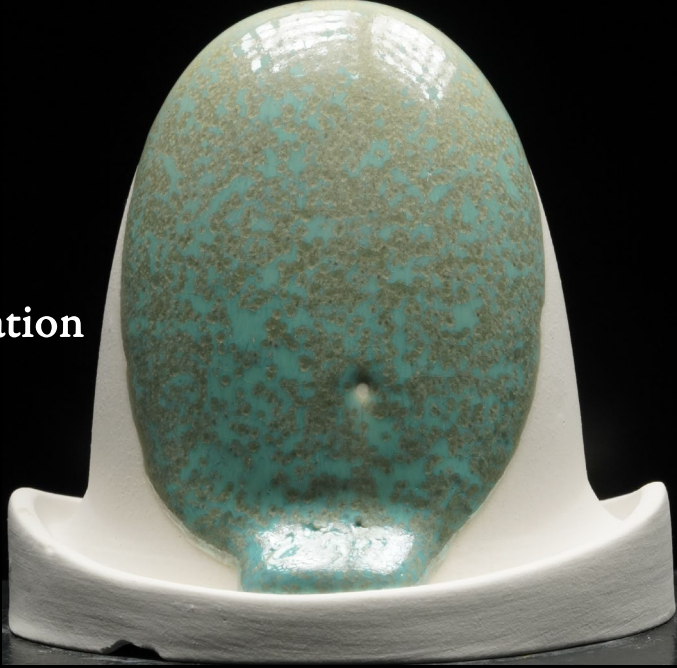
Original

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



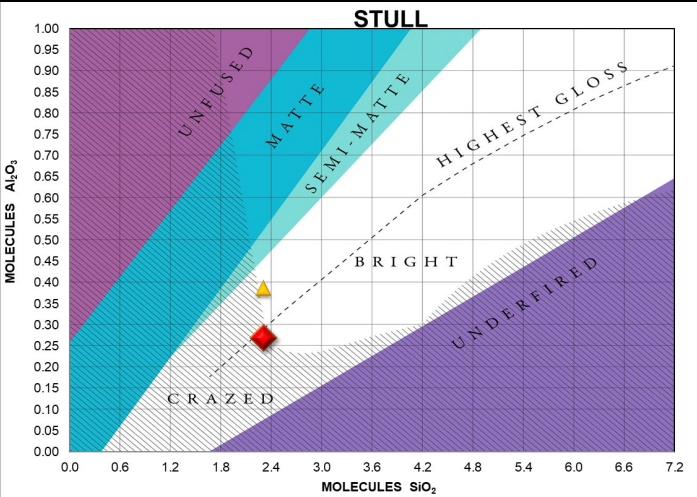
Reduction



Reduction

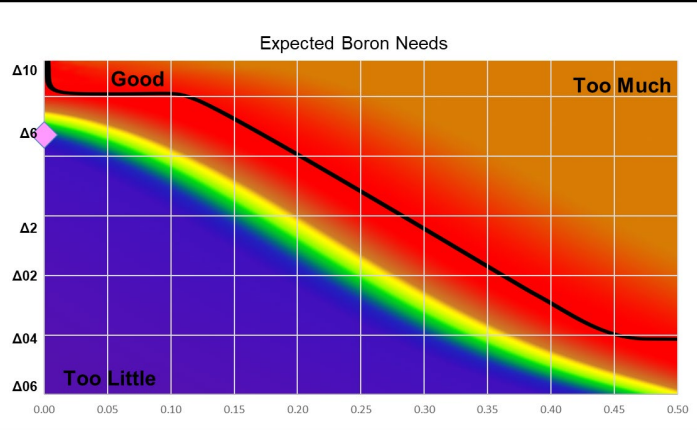
UMF

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

w/o Kaolin

071022-4

Neph Sy	41.05
Whiting	9.47
Zinc Oxide	17.90
EPK	
Flint	29.47
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



Oxidation

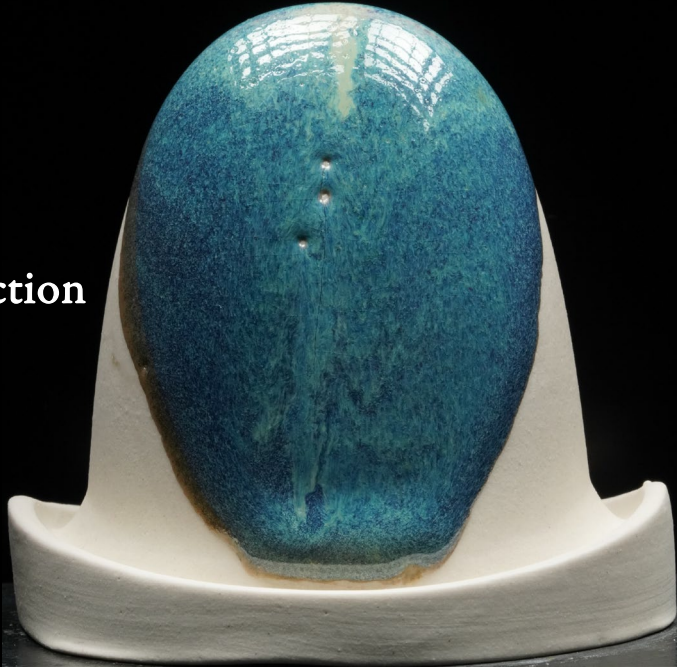
1-3 Second Dip



2-3 Second Dips

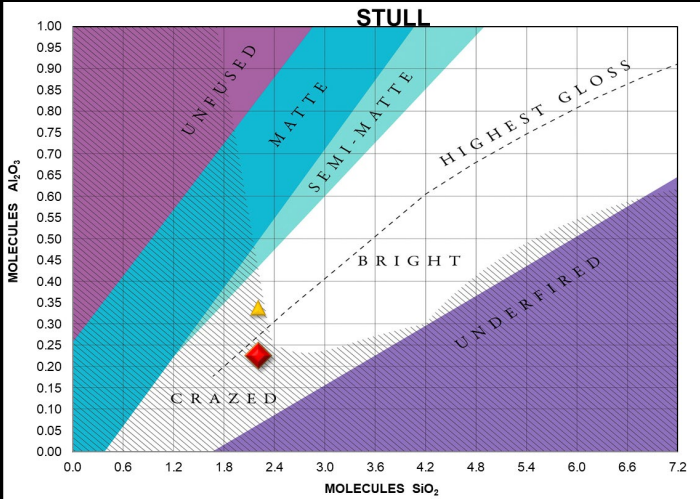


Reduction



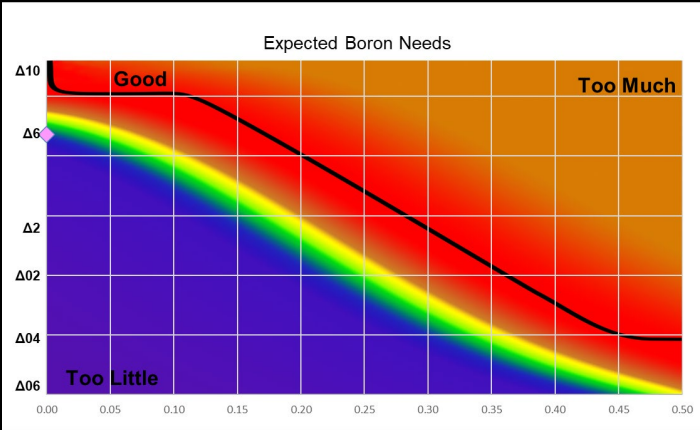
UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.81 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.28	Collective "Al ₂ O ₃ " 0.23	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO	SrO	BaO
TiO ₂	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 6.52 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.21	Collective "Al ₂ O ₃ " 0.34	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.00	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂	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

w/o Silica

071022-5

Neph Sy	54.54
Whiting	12.59
Zinc Oxide	23.77
EPK	6.99
Flint	
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

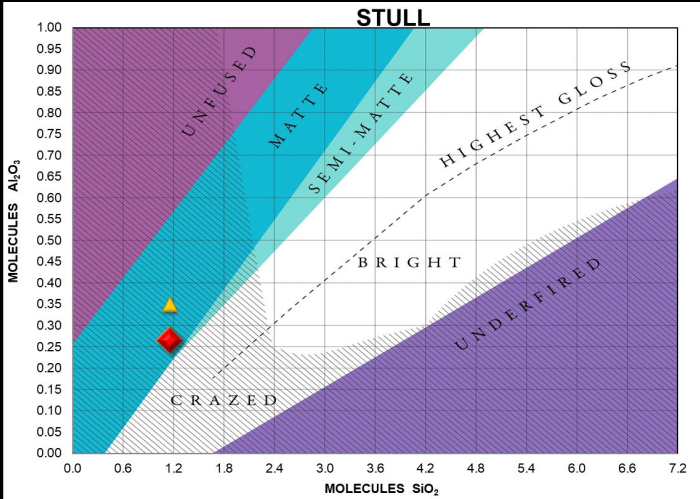


Reduction

Oxidation

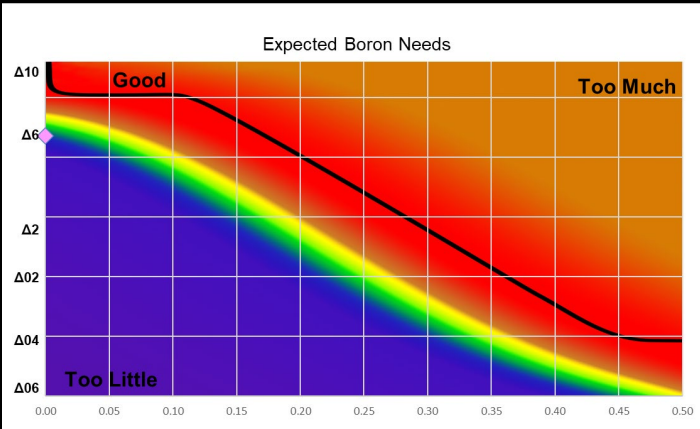
UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.37 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 1.18	Collective "Al ₂ O ₃ " 0.27	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.27	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 3.30 : 1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 1.16	Collective "Al ₂ O ₃ " 0.35	Na ₂ O 0.17	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 0.02	SrO	BaO
TiO ₂ 0.09	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

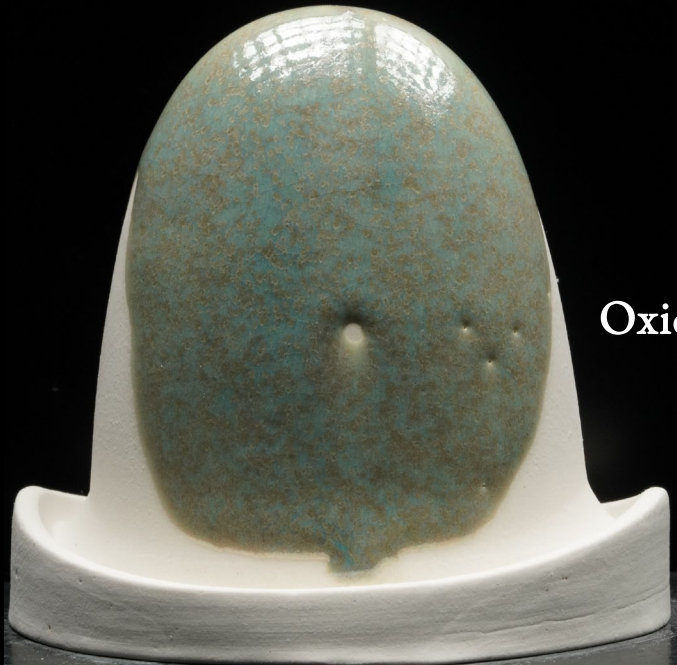


Ceramic
Materials
Workshop

Freckles

Mapping
Kaolin 2
071022-24

Neph Sy	36.87
Whiting	8.51
Zinc Oxide	16.07
EPK	9.97
Flint	26.47
Bentonite	2.10
Copper Carbonate	1.47
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

Oxidation



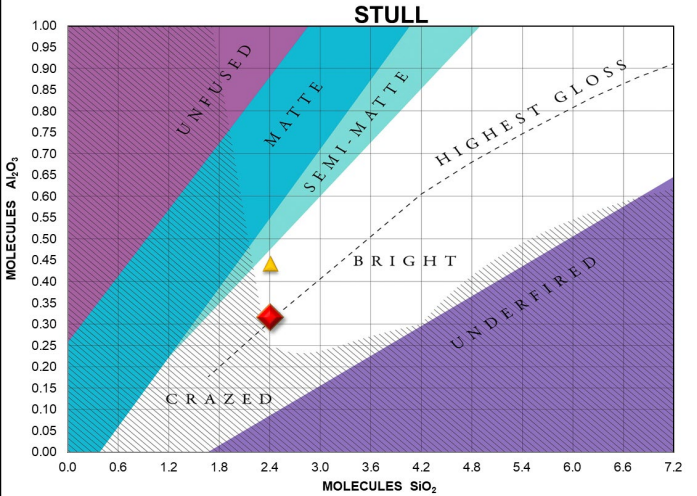
1-3 Second Dip



2-3 Second Dips

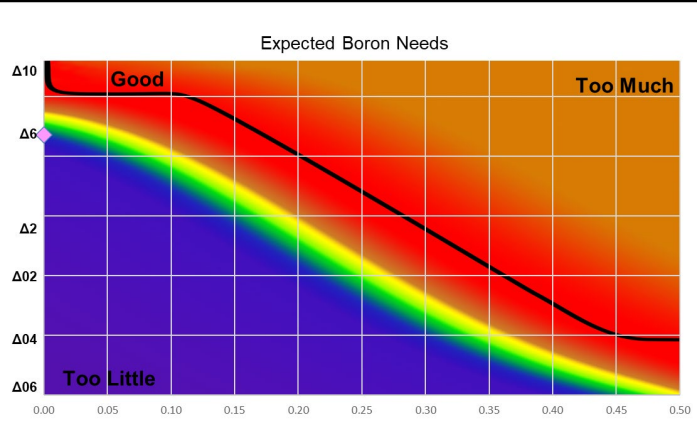
Reduction

SiO ₂ :Al ₂ O ₃ Ratio 7.62 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.49	Collective "Al ₂ O ₃ " 0.33	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.33	Li ₂ O	CuO	SrO	BaO
TiO ₂	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 5.46 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.41	Collective "Al ₂ O ₃ " 0.44	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.32	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.13	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

Mapping
Kaolin 3
071022-25

Neph Sy	35.08
Whiting	8.10
Zinc Oxide	15.29
EPK	14.23
Flint	25.19
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip

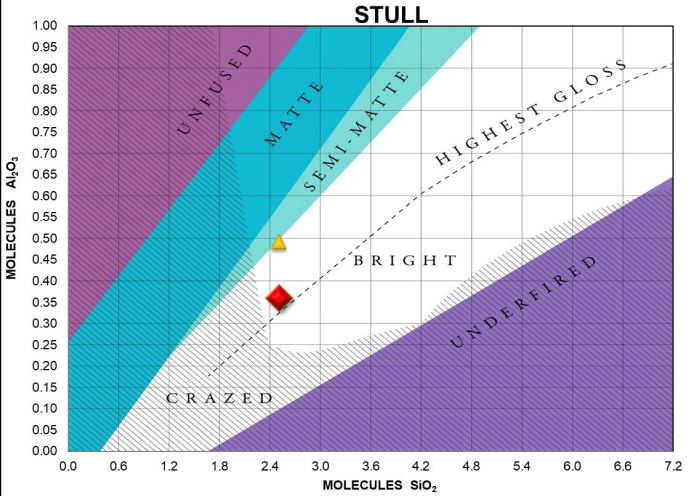


2-3 Second Dips

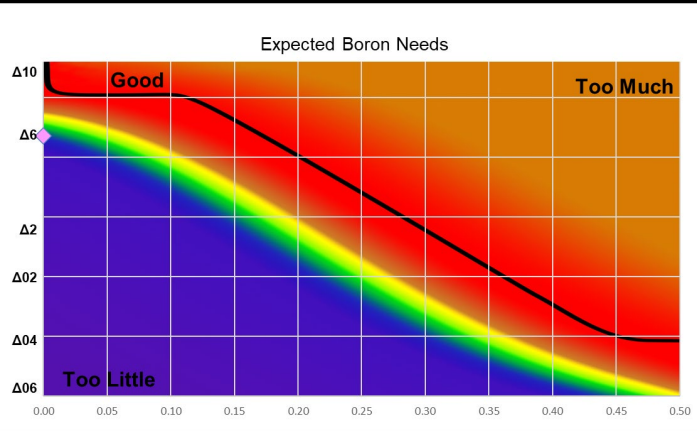


Reduction

SiO ₂ :Al ₂ O ₃ Ratio 6.94 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.60	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.37	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



SiO ₂ :Al ₂ O ₃ Ratio 5.10 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.51	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.13	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

Mapping
Kaolin 4
071022-26

Neph Sy	33.46
Whiting	7.72
Zinc Oxide	14.58
EPK	18.10
Flint	24.02
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	65



1-3 Second Dip

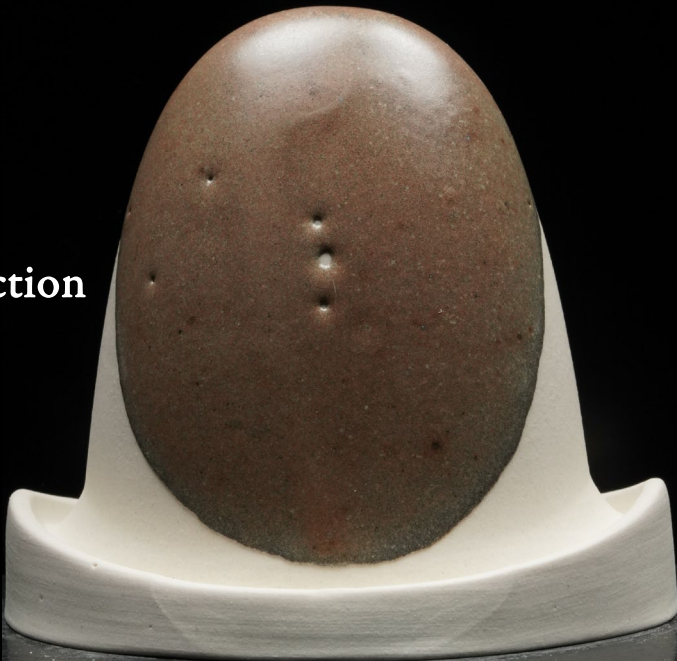


2-3 Second Dips

Oxidation



1-3 Second Dip

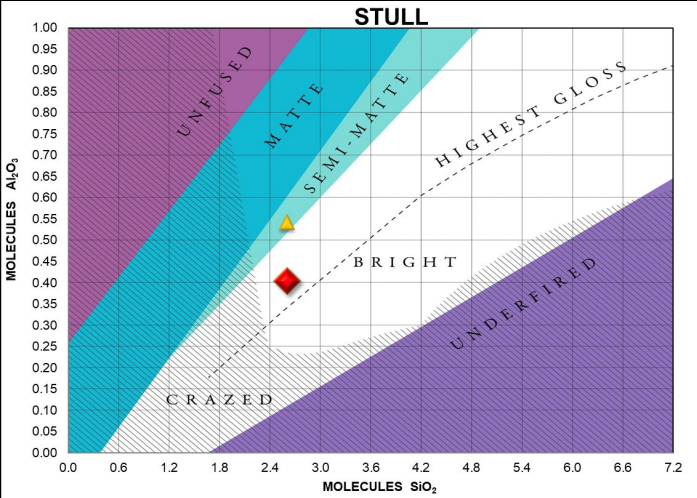


2-3 Second Dips

Reduction

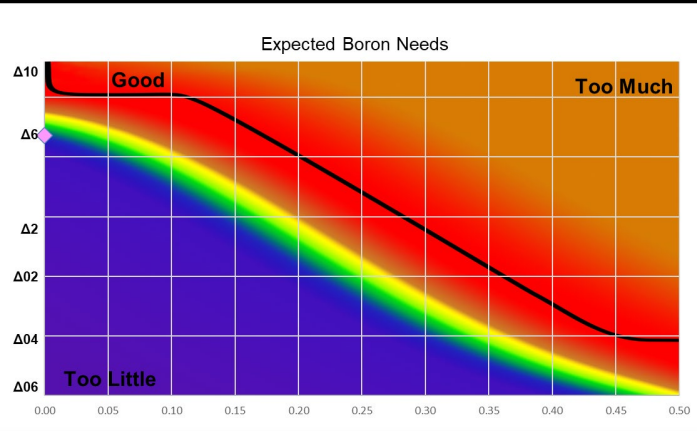
UMF

SiO ₂ :Al ₂ O ₃ Ratio 6.42 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.70	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
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 0.53	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.81 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.61	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.14	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



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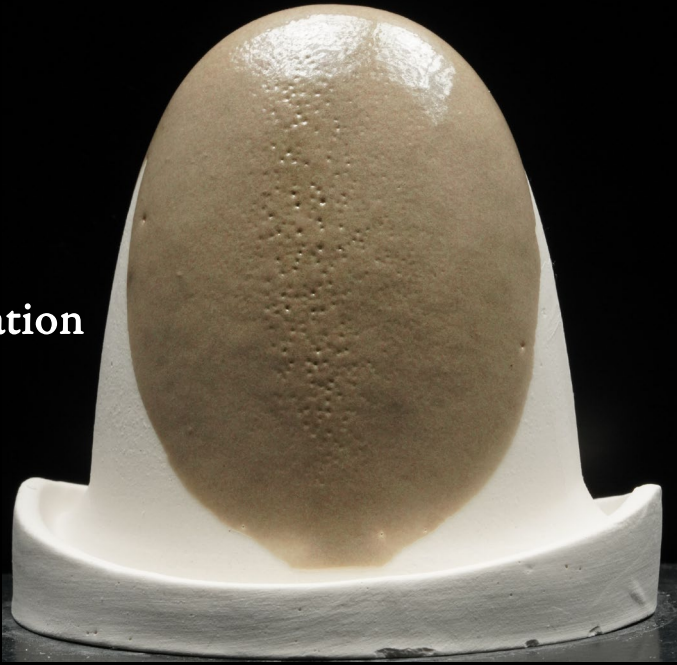
Freckles

Mapping
Kaolin 5
071022-27

Neph Sy	31.98
Whiting	7.38
Zinc Oxide	13.94
EPK	21.63
Flint	22.96
Bentonite	2.10
Copper Carbonate	1.48
Light Rutile	4.01
Water	65



1-3 Second Dip

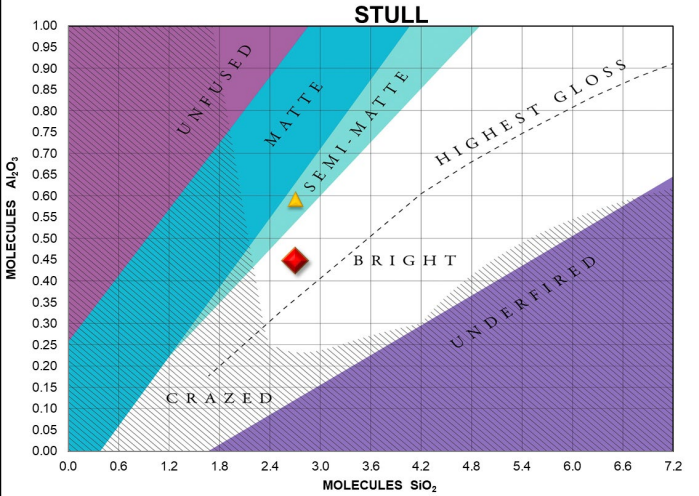


2-3 Second Dips



Reduction

SiO ₂ :Al ₂ O ₃ Ratio 6.01 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.81	Collective "Al ₂ O ₃ " 0.47	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.46	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



SiO ₂ :Al ₂ O ₃ Ratio 4.57 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.70	Collective "Al ₂ O ₃ " 0.59	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.45	Li ₂ O	CuO 0.04	SrO	BaO
TiO ₂ 0.15	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



Freckles

Mapping
Kaolin 6
071022-28

Neph Sy	30.63
Whiting	7.07
Zinc Oxide	13.35
EPK	24.85
Flint	21.99
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	75



1-3 Second Dip



2-3 Second Dips



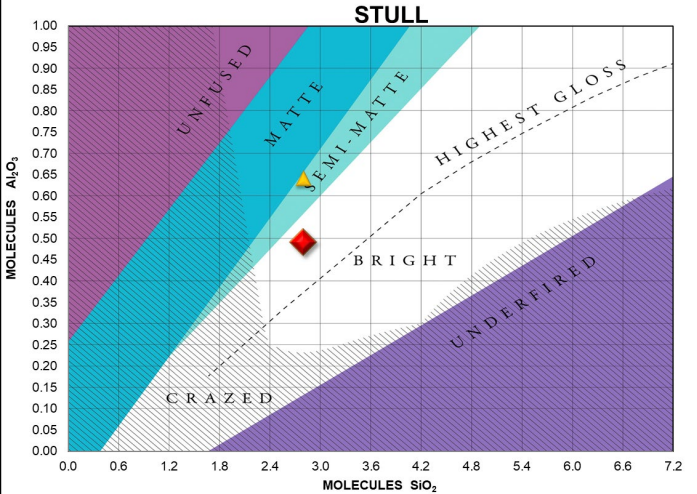
Reduction



Oxidation

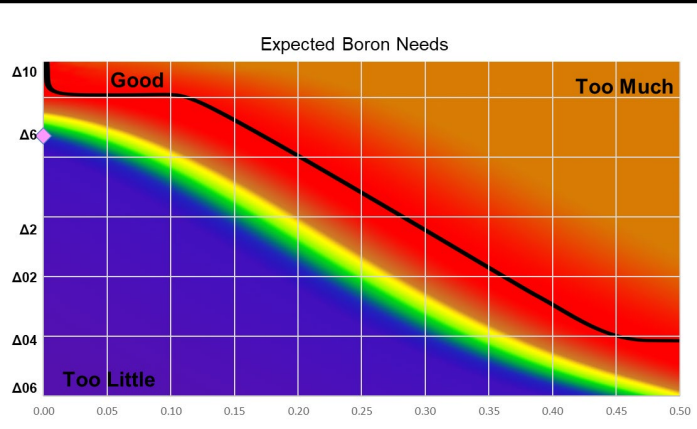
UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.67 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.91	Collective "Al ₂ O ₃ " 0.51	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.51	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

SiO ₂ :Al ₂ O ₃ Ratio 4.37 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.80	Collective "Al ₂ O ₃ " 0.64	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.01	CaO 0.23
B ₂ O ₃	Al ₂ O ₃ 0.49	Li ₂ O	CuO 0.04	SrO	BaO
TiO ₂ 0.15	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
Workshop

Freckles

Mapping
Silica 2
071022-29

Neph Sy	48.13
Whiting	11.11
Zinc Oxide	20.98
EPK	6.17
Flint	11.51
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60

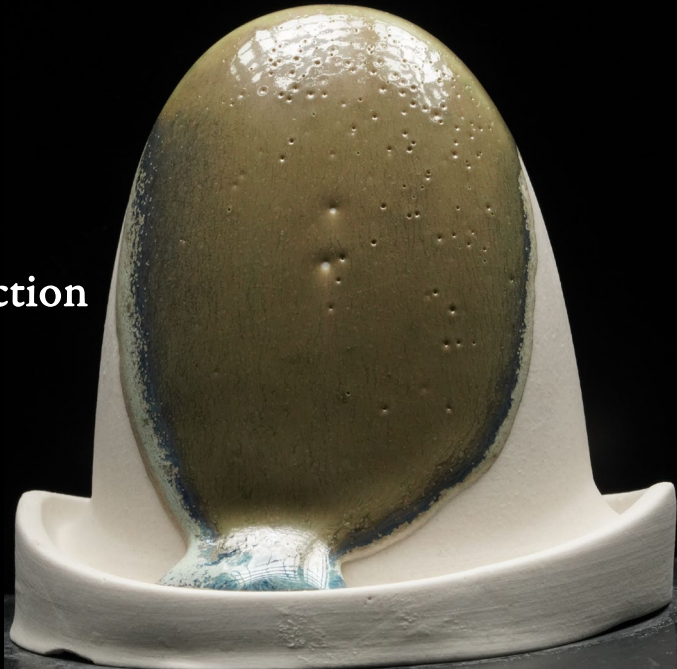


1-3 Second Dip



2-3 Second Dips

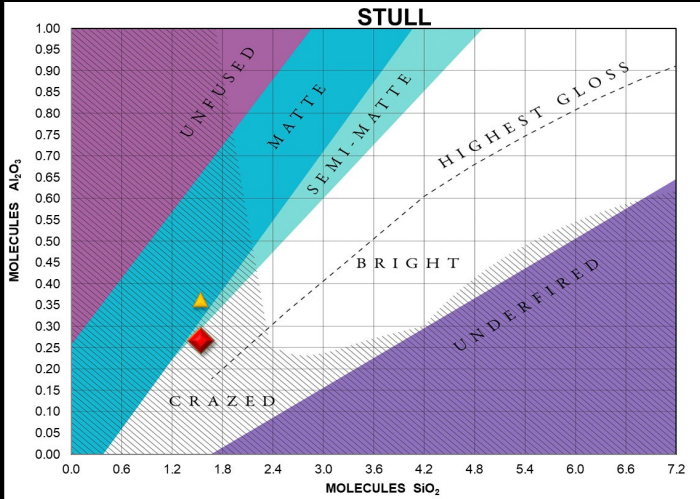
Oxidation



Reduction

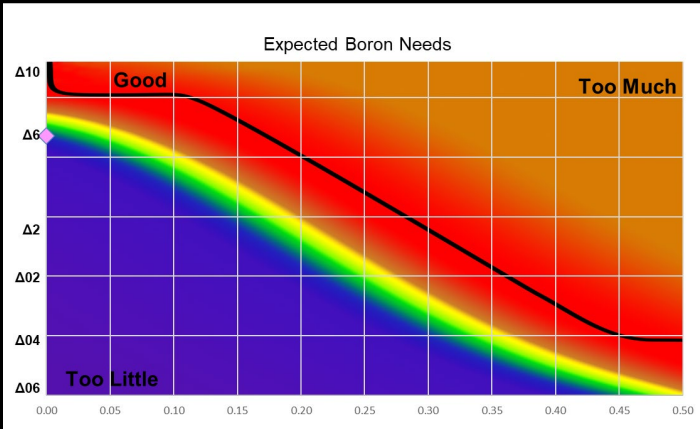
UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.79 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 1.58	Collective "Al ₂ O ₃ " 0.27	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.27	Li ₂ O	CuO	SrO	BaO
TiO ₂	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 4.25 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 1.54	Collective "Al ₂ O ₃ " 0.36	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 0.02	SrO	BaO
TiO ₂ 0.10	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

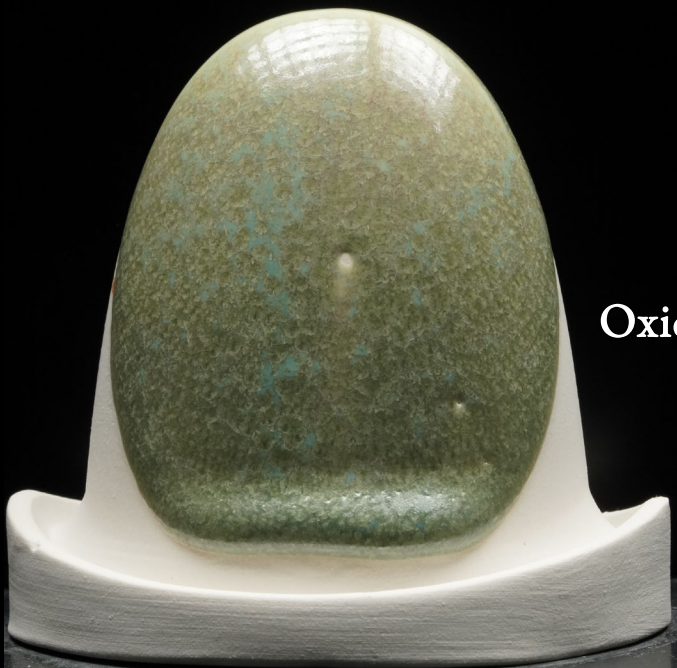


Ceramic
Materials
Workshop

Freckles

Mapping
Silica 3
071022-30

Neph Sy	43.06
Whiting	9.94
Zinc Oxide	18.77
EPK	5.52
Flint	20.61
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

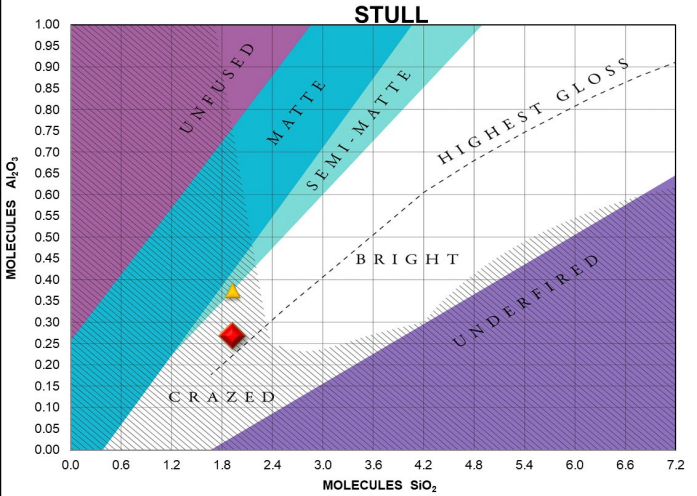


Reduction



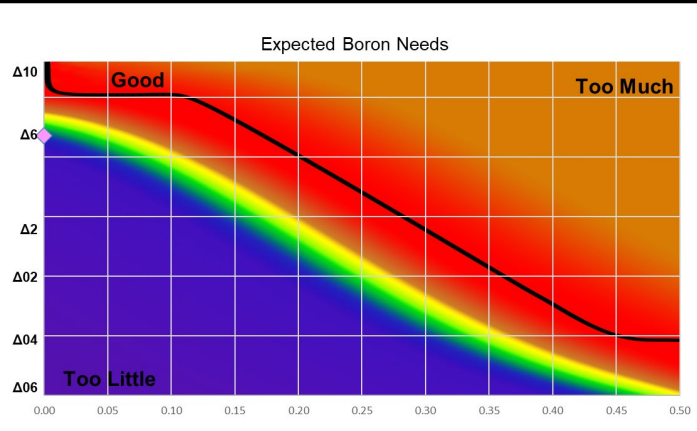
Reduction

SiO ₂ :Al ₂ O ₃ Ratio 7.20 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 1.98	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 0.27	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 5.13 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 1.93	Collective "Al ₂ O ₃ " 0.38	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 0.11	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

Mapping
Silica 4
071022-31

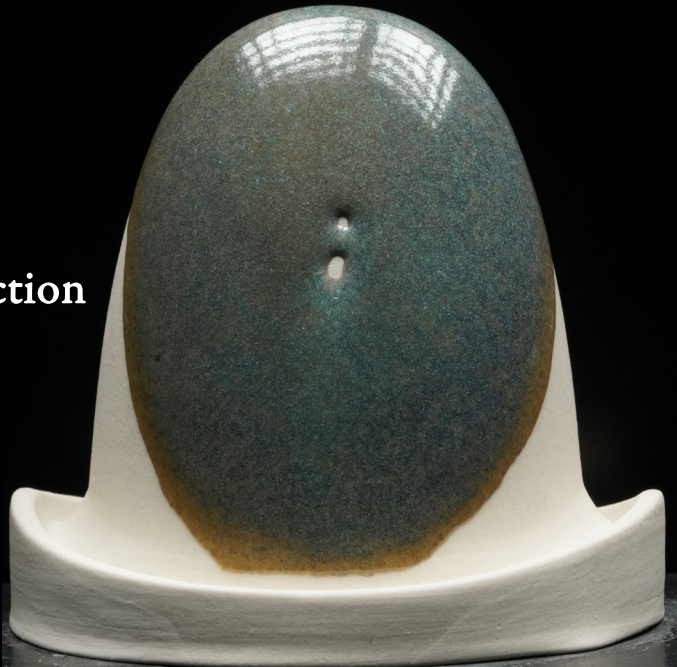
Neph Sy	35.57
Whiting	8.21
Zinc Oxide	15.51
EPK	4.56
Flint	34.04
Bentonite	2.11
Copper Carbonate	1.47
Light Rutile	4.01
Water	60



1-3 Second Dip

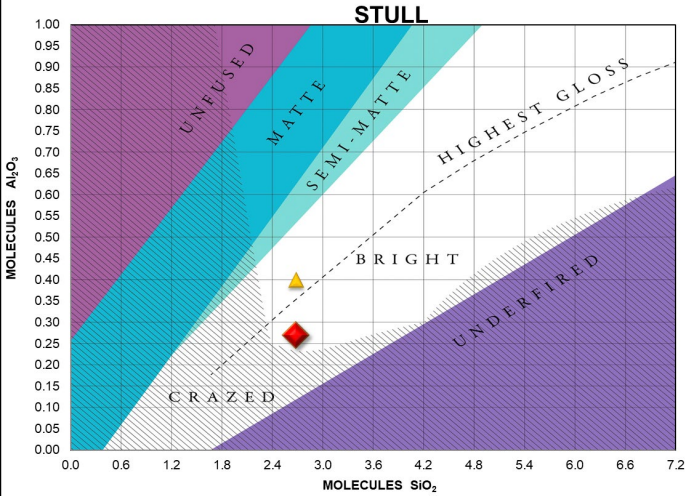


2-3 Second Dips

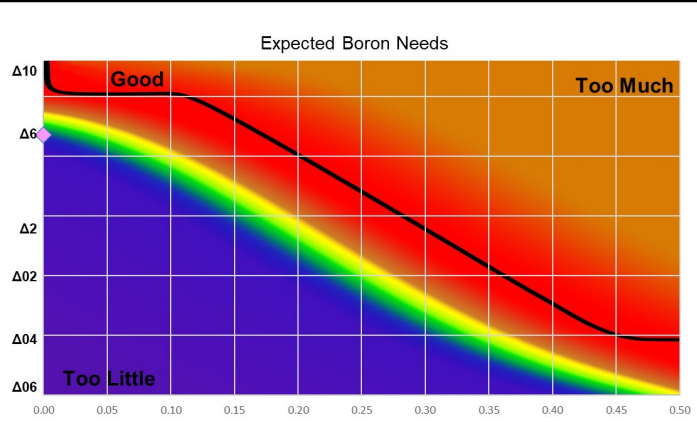


Reduction

UMF		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 9.94 : 1		0.22		0.78	
SiO ₂ 2.77	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		Alkali Metals		Alkaline Earths	
SiO ₂ :Al ₂ O ₃ Ratio 6.71 : 1		0.24		0.76	
SiO ₂ 2.68	Collective "Al ₂ O ₃ " 0.40	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 0.13	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



Freckles

Mapping
Silica 5
071022-32

Neph Sy	32.73
Whiting	7.55
Zinc Oxide	14.27
EPK	4.20
Flint	39.15
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



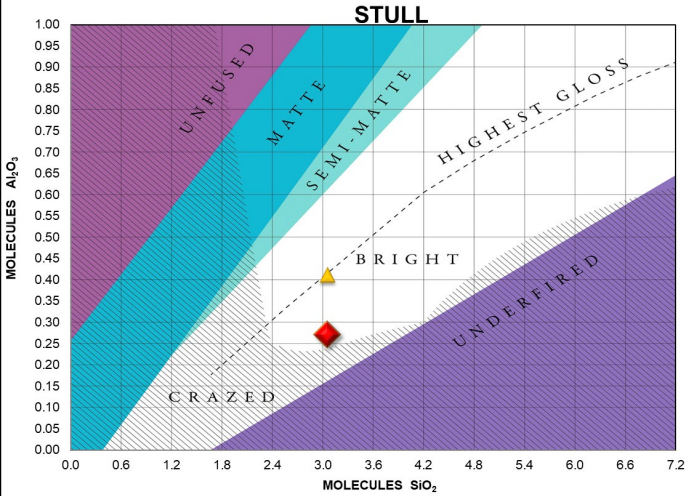
2-3 Second Dips



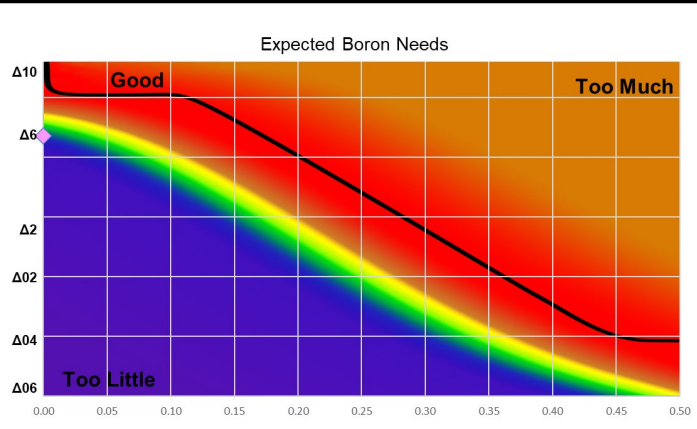
Reduction



SiO ₂ :Al ₂ O ₃ Ratio 11.28 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 3.17	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.01	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.28	Li ₂ O	CuO	SrO	BaO
TiO ₂	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



SiO ₂ :Al ₂ O ₃ Ratio 7.42 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 3.06	Collective "Al ₂ O ₃ " 0.41	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 0.04	SrO	BaO
TiO ₂ 0.14	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

Mapping
Silica 6
071022-33

Neph Sy	30.30
Whiting	6.99
Zinc Oxide	13.21
EPK	3.89
Flint	43.50
Bentonite	2.11
Copper Carbonate	1.48
Light Rutile	4.01
Water	60



1-3 Second Dip



2-3 Second Dips

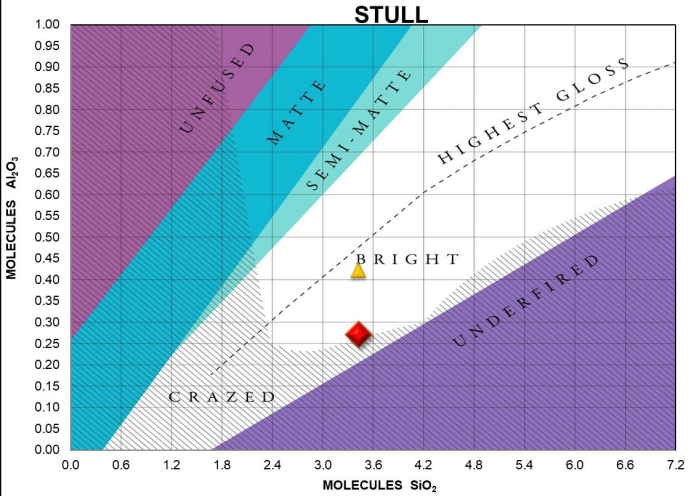


Reduction

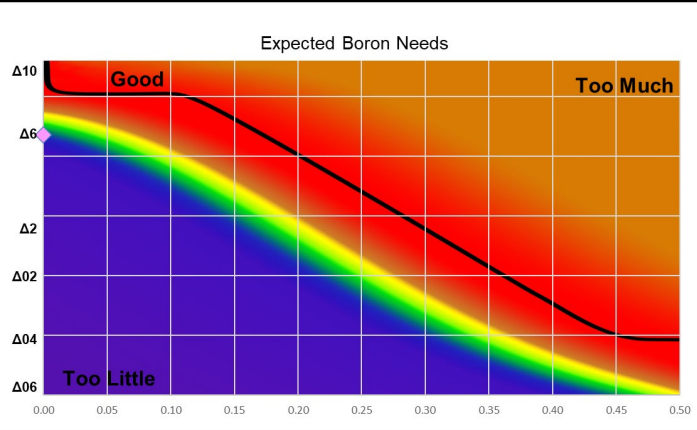


Reduction

UMF SiO ₂ :Al ₂ O ₃ Ratio 12.59 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 3.56	Collective "Al ₂ O ₃ " 0.28	Na ₂ O 0.17	K ₂ O 0.05	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 0.54	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF SiO ₂ :Al ₂ O ₃ Ratio 8.09 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.43	Collective "Al ₂ O ₃ " 0.42	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 0.04	SrO	BaO
TiO ₂ 0.15	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
Workshop