

Katz Burke Matte- Δ 6

Lab 5a-Color Wheel

KB Matte

Original

070522-1

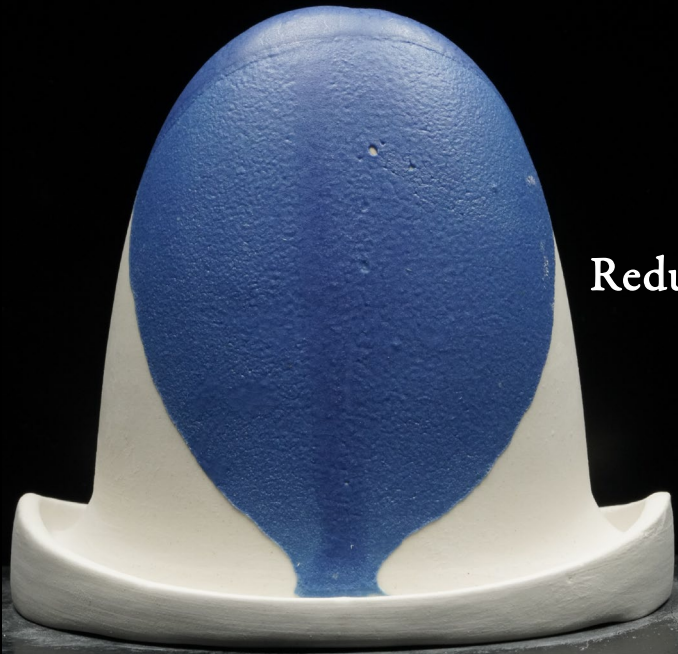
Neph Sy	19.71
Whiting	16.76
EPK	34.85
Flint	12.91
3134	15.77
Cobalt Carbonate	1.01
Water	100



1-3 Second Dip



2-3 Second Dips



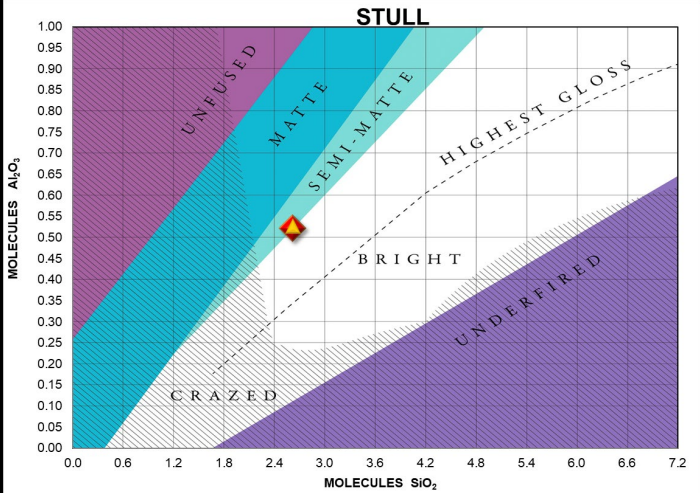
Reduction



Oxidation

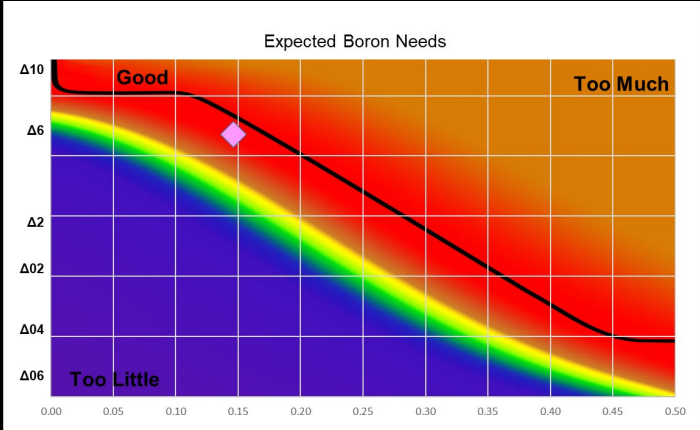
UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.97 : 1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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 4.97 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.62	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.00	CaO 0.73
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.52	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 0.03



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Chrome Oxide

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



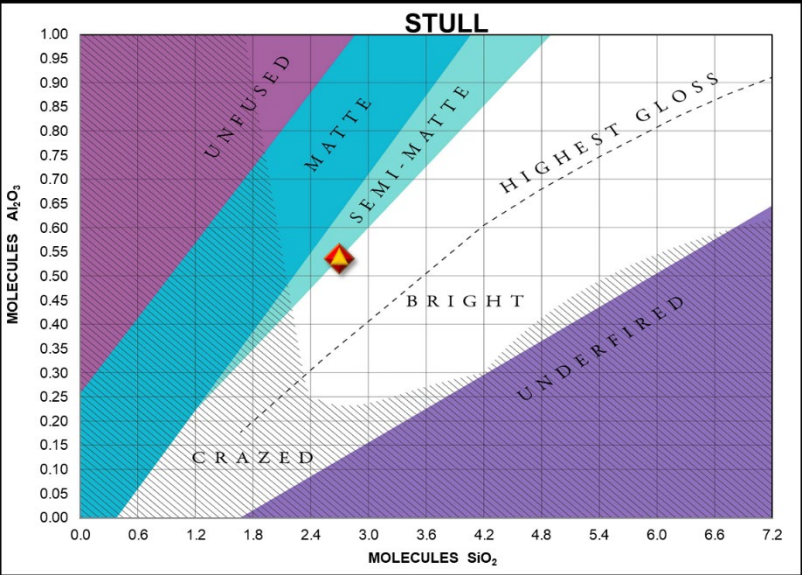
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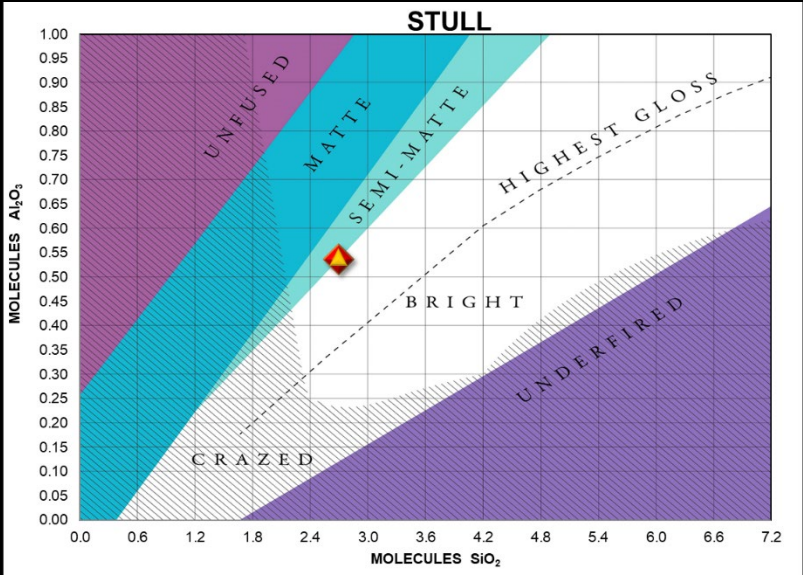
Chrome Oxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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

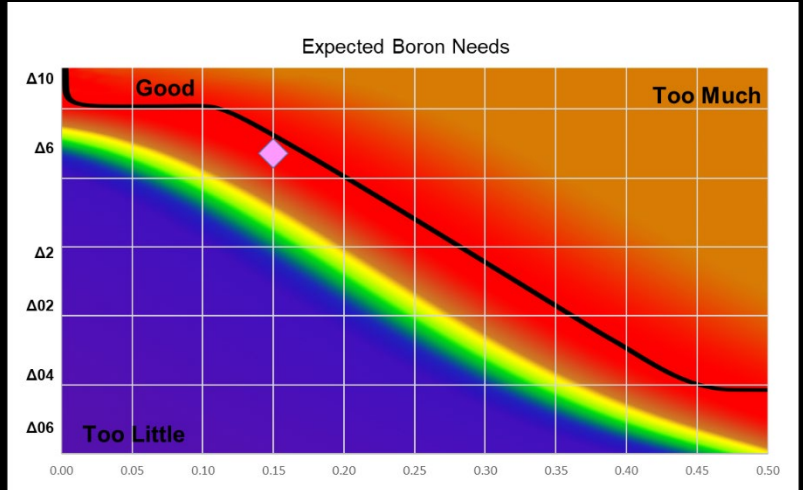
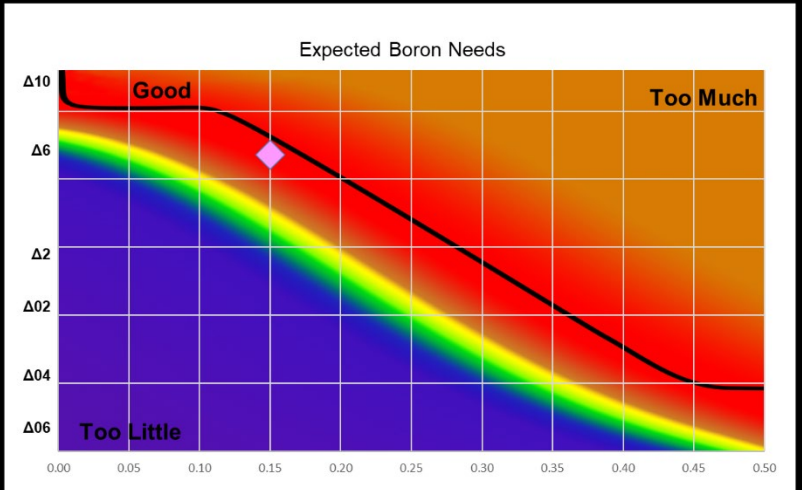


0.5%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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 0.04	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



2%



Cobalt Carbonate

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



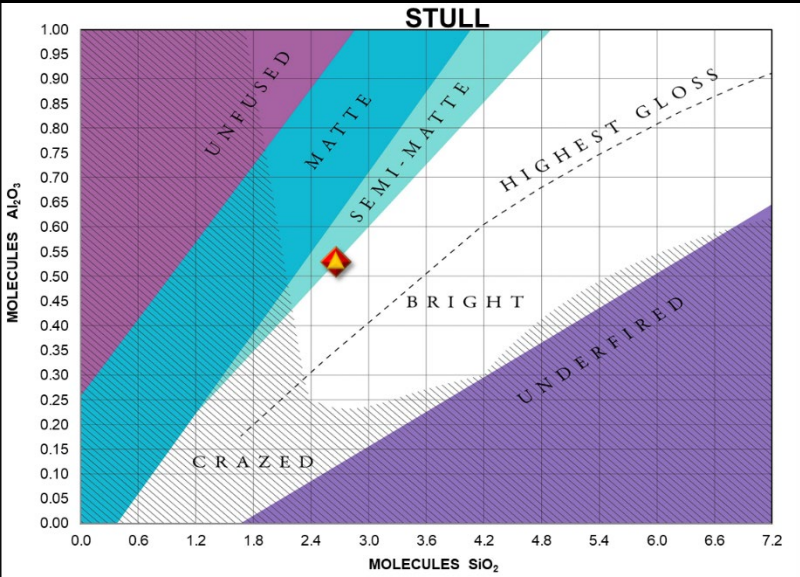
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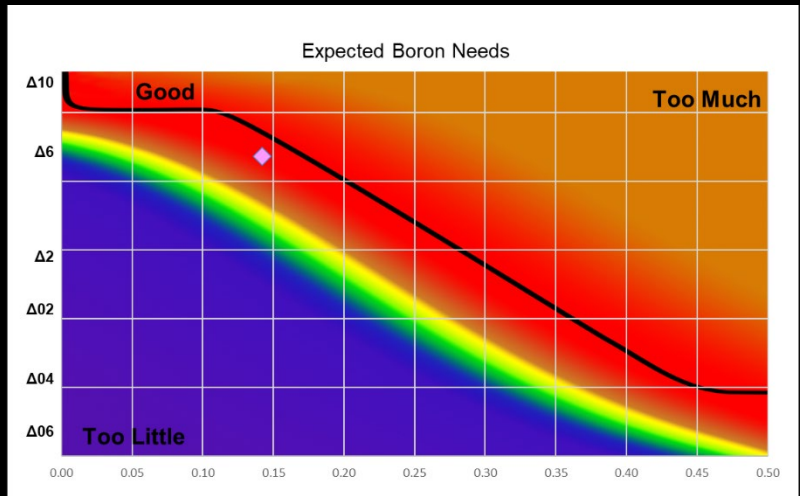
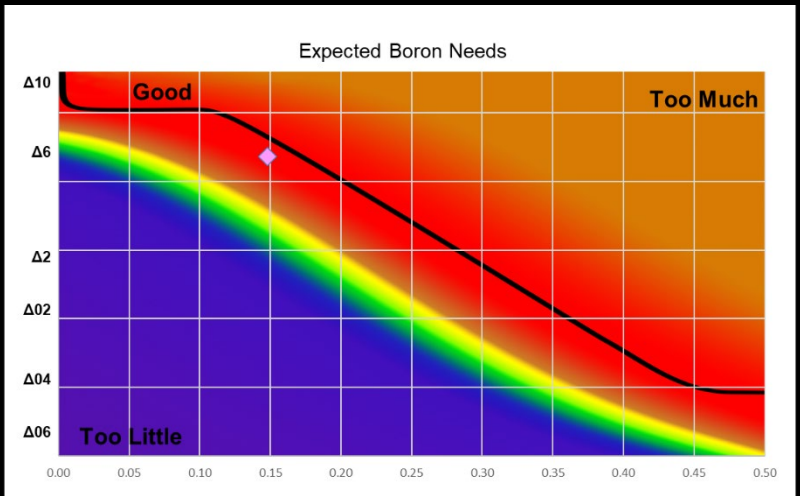
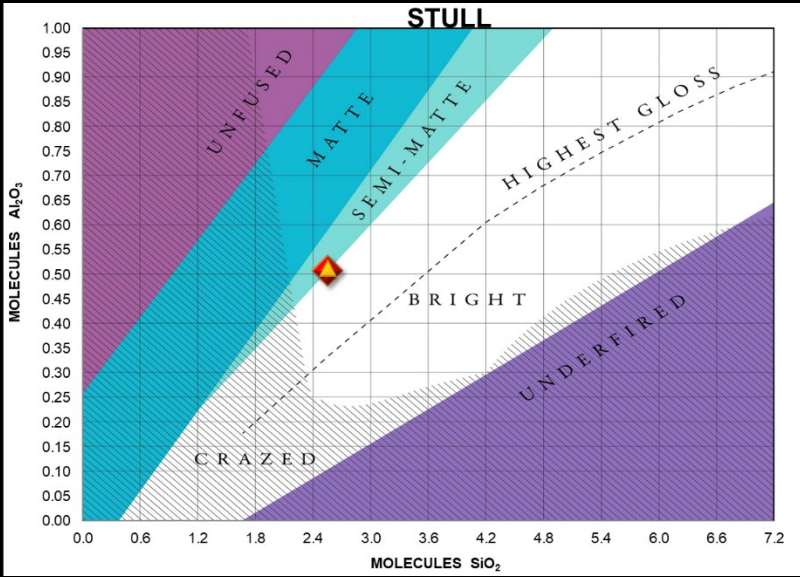
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Cobalt Carbonate

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.66	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.74
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.53	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 0.01



SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.55	Collective "Al ₂ O ₃ " 0.51	Na ₂ O 0.18	K ₂ O 0.03	MgO 0.00	CaO 0.71
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.51	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.05



Cobalt Oxide

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



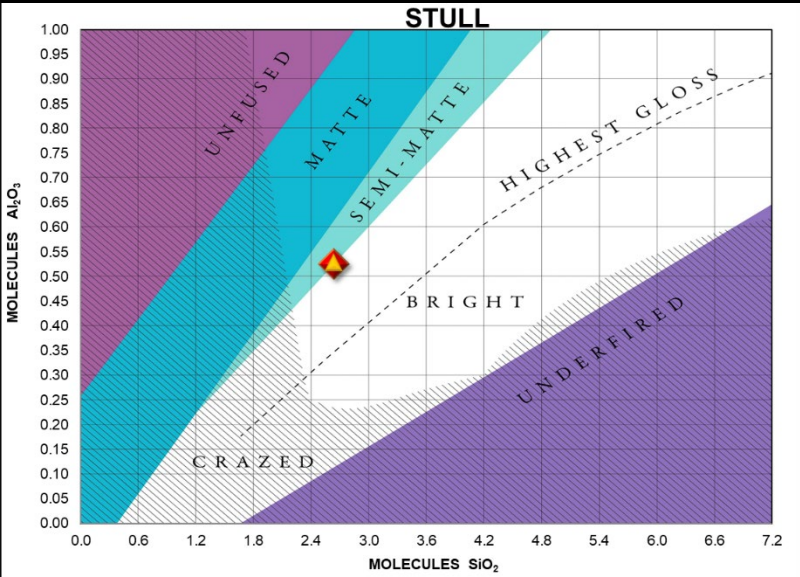
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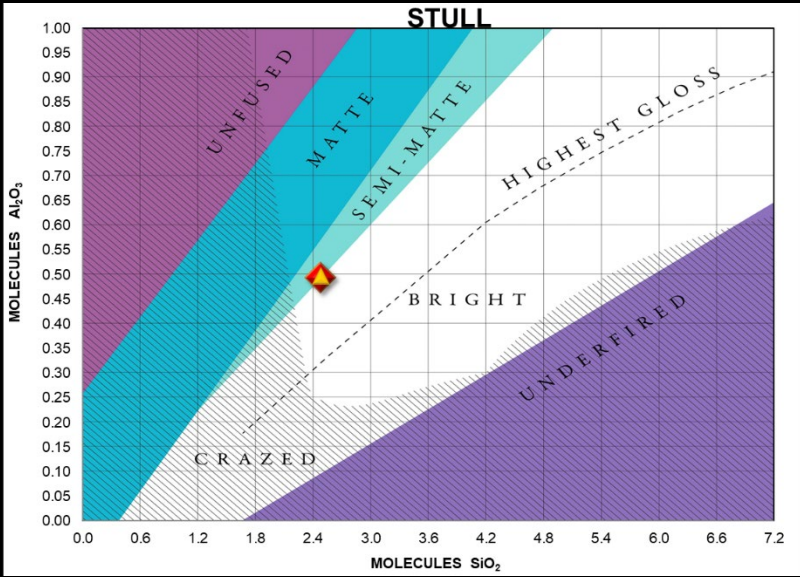
Cobalt Oxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.64	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.00	CaO 0.74
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.52	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 0.02

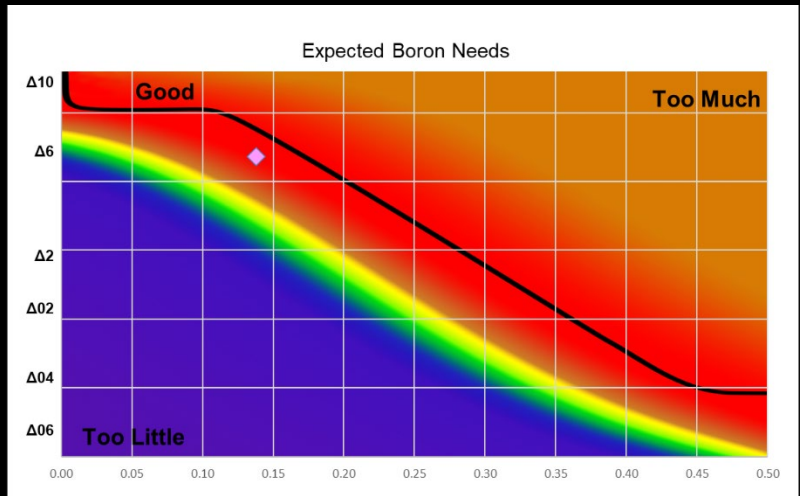
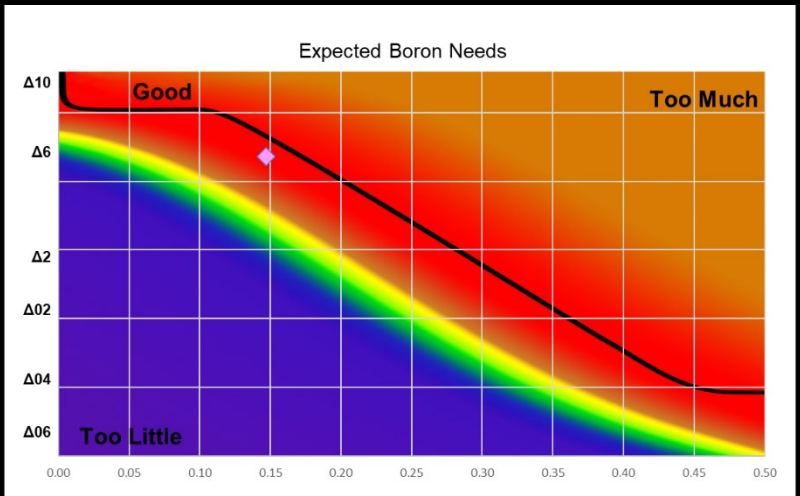


0.5%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.48	Collective "Al ₂ O ₃ " 0.50	Na ₂ O 0.18	K ₂ O 0.03	MgO 0.00	CaO 0.69
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.49	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.08



2%



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Copper Carbonate

Oxidation

Reduction

1%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

4%



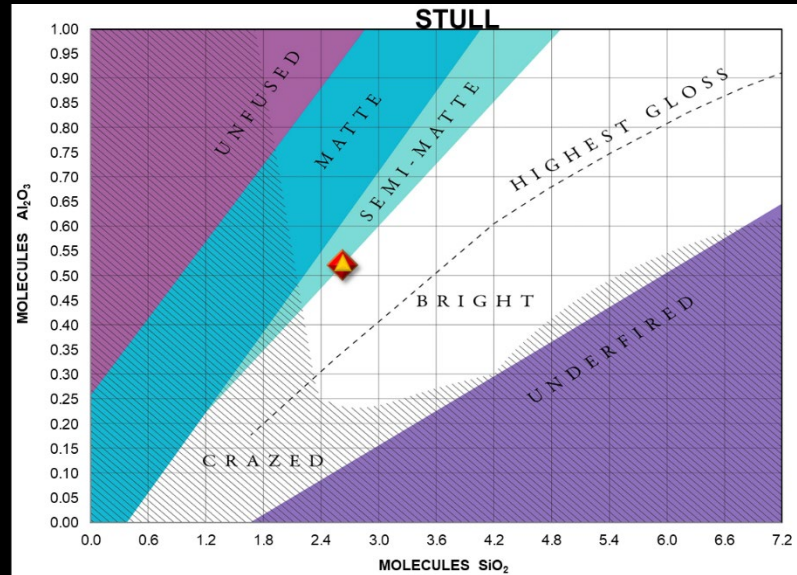
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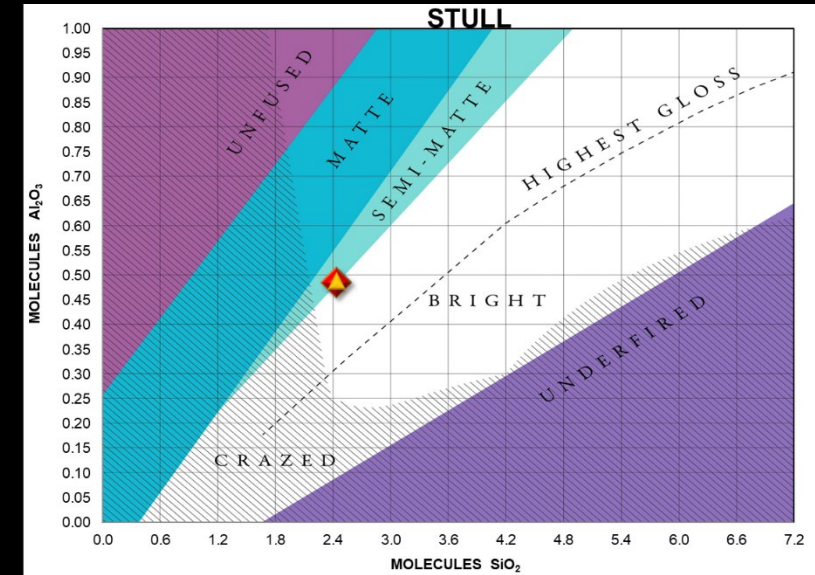
Copper Carbonate

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.62	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.00	CaO 0.73
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.52	Li ₂ O	CuO 0.03	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

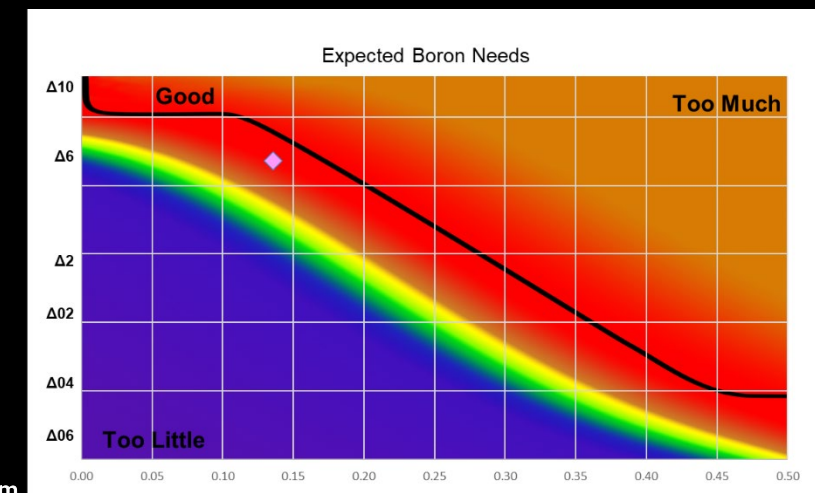
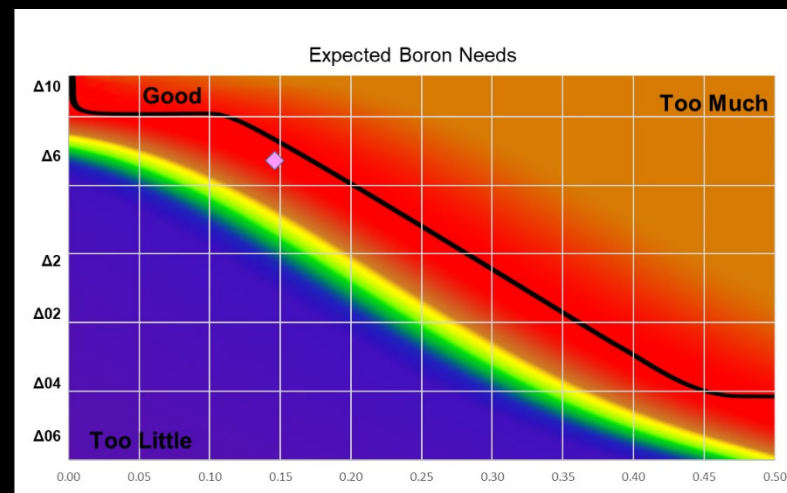


1%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.30		Alkaline Earths 0.70	
SiO ₂ 2.44	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.17	K ₂ O 0.03	MgO 0.00	CaO 0.68
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.48	Li ₂ O	CuO 0.10	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



4%

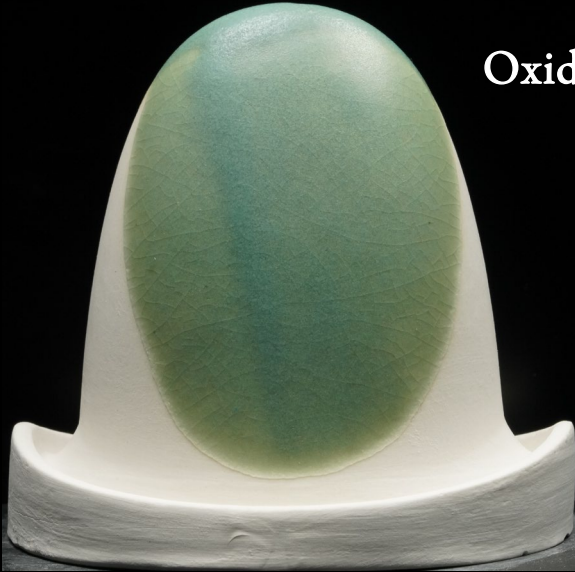


Copper Oxide-Black

Oxidation

Reduction

1%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

4%



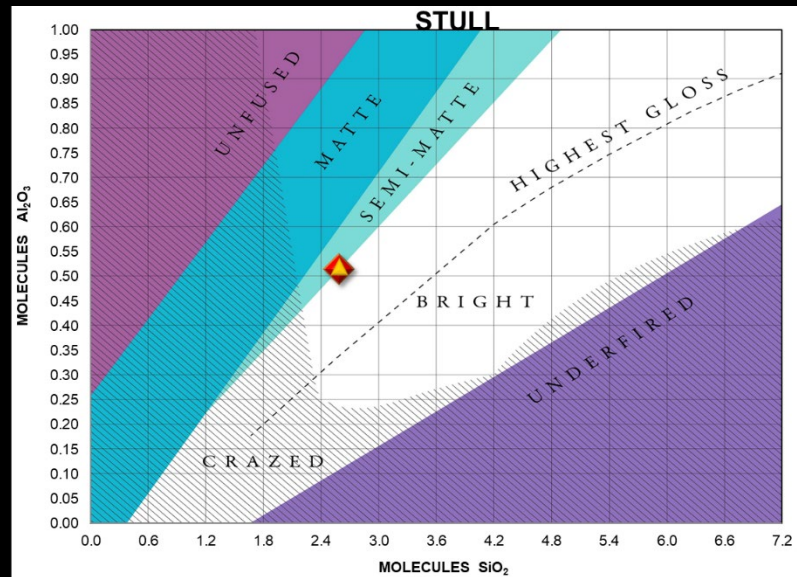
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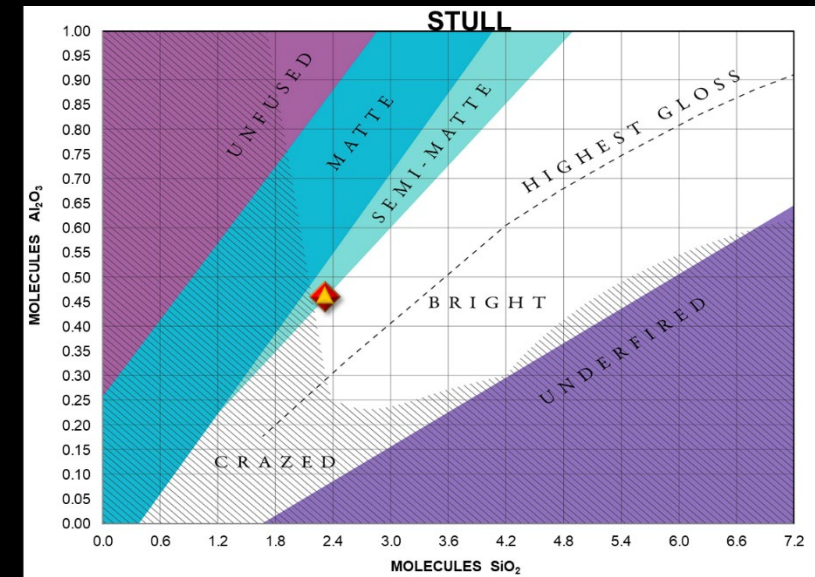
Copper Oxide-Black

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.26		Alkaline Earths 0.74	
SiO ₂ 2.59	Collective "Al ₂ O ₃ " 0.52	Na ₂ O 0.18	K ₂ O 0.03	MgO 0.00	CaO 0.72
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.52	Li ₂ O	CuO 0.04	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

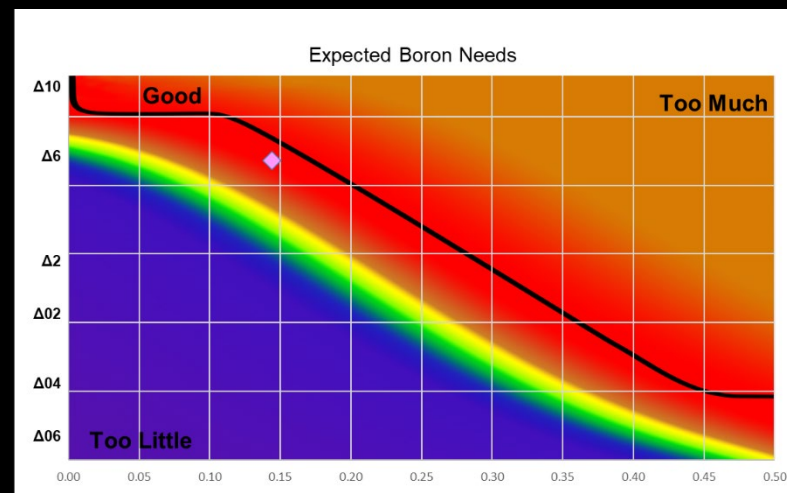


1%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.47	Na ₂ O 0.17	K ₂ O 0.03	MgO 0.00	CaO 0.65
B ₂ O ₃ 0.13	Al ₂ O ₃ 0.46	Li ₂ O	CuO 0.14	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



4%



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Red Iron Oxide

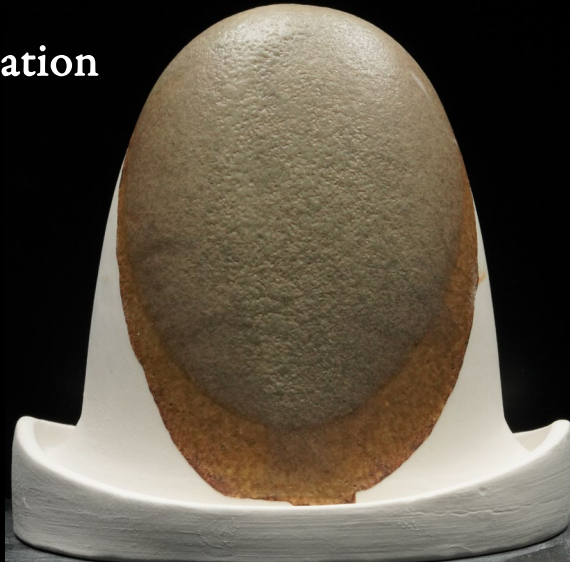
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



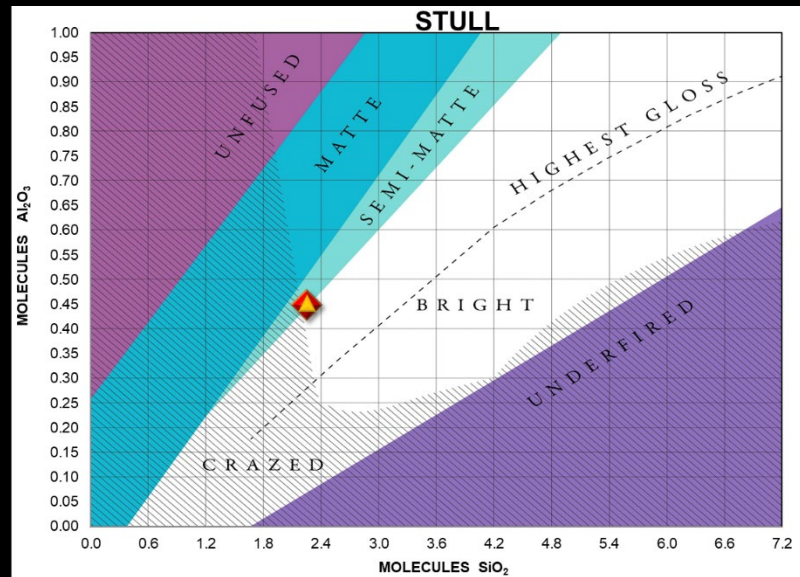
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Red Iron Oxide

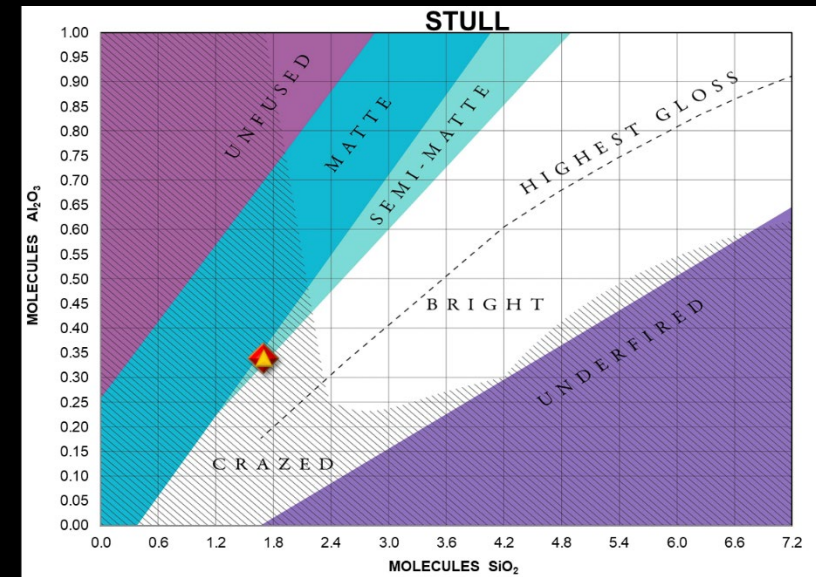
SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.19		Alkaline Earths 0.81	
SiO ₂ 2.25	Collective "Al ₂ O ₃ " 0.45	Na ₂ O 0.16	K ₂ O 0.03	MgO 0.00	CaO 0.63
B ₂ O ₃ 0.13	Al ₂ O ₃ 0.45	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.18
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



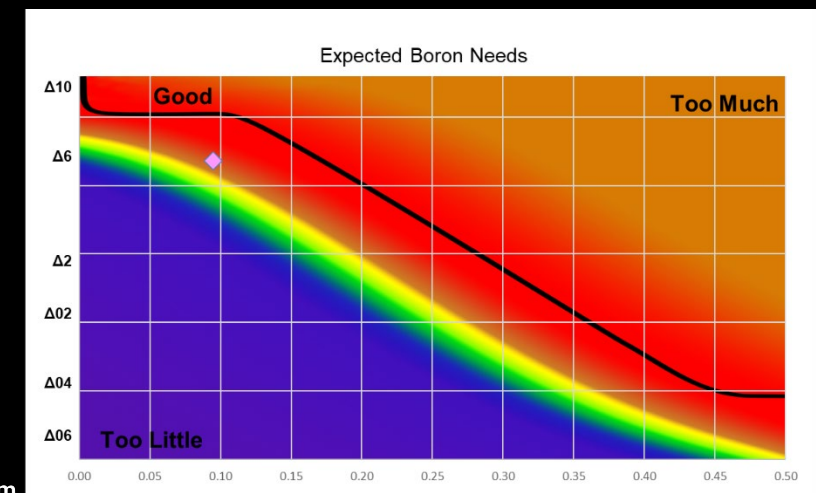
3%



SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.14		Alkaline Earths 0.86	
SiO ₂ 1.70	Collective "Al ₂ O ₃ " 0.34	Na ₂ O 0.12	K ₂ O 0.02	MgO 0.00	CaO 0.47
B ₂ O ₃ 0.09	Al ₂ O ₃ 0.34	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.38
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



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Black Iron Oxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



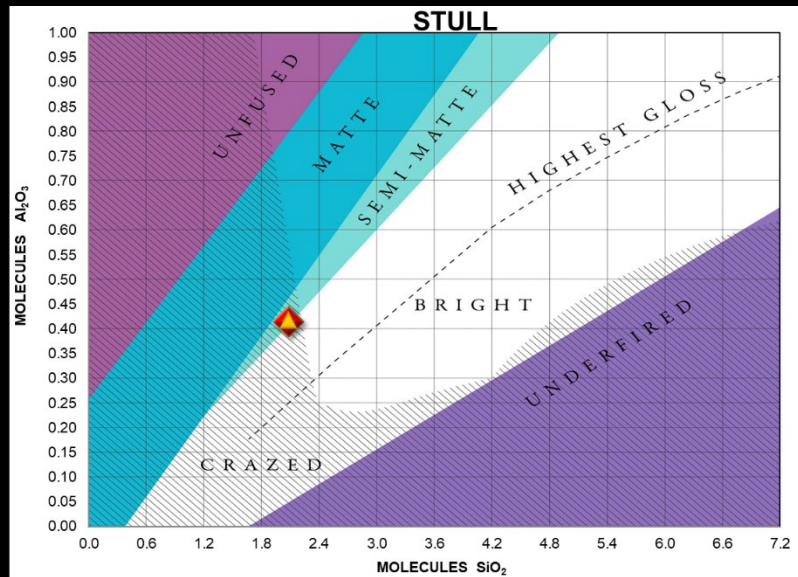
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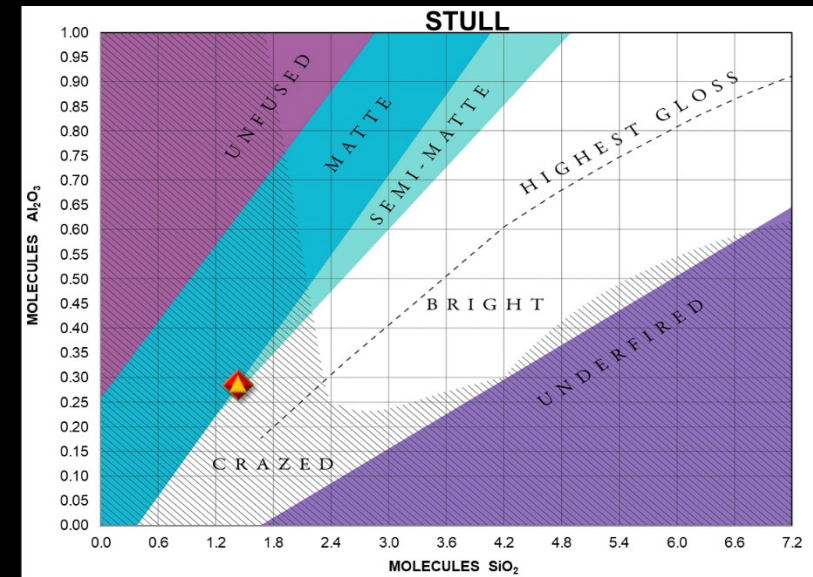
Black Iron Oxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.18		Alkaline Earths 0.82	
SiO ₂ 2.08	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.15	K ₂ O 0.03	MgO 0.00	CaO 0.58
B ₂ O ₃ 0.12	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.24
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

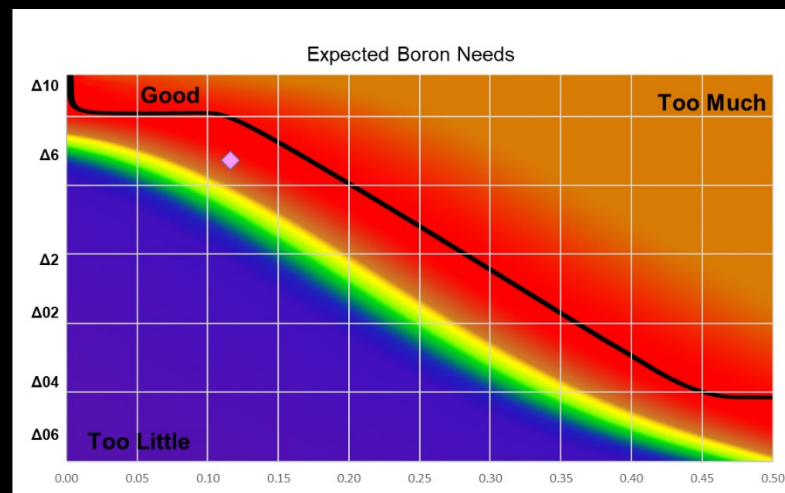


3%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.12		Alkaline Earths 0.88	
SiO ₂ 1.43	Collective "Al ₂ O ₃ " 0.29	Na ₂ O 0.10	K ₂ O 0.02	MgO 0.00	CaO 0.40
B ₂ O ₃ 0.08	Al ₂ O ₃ 0.29	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.48
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



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Yellow Iron Oxide

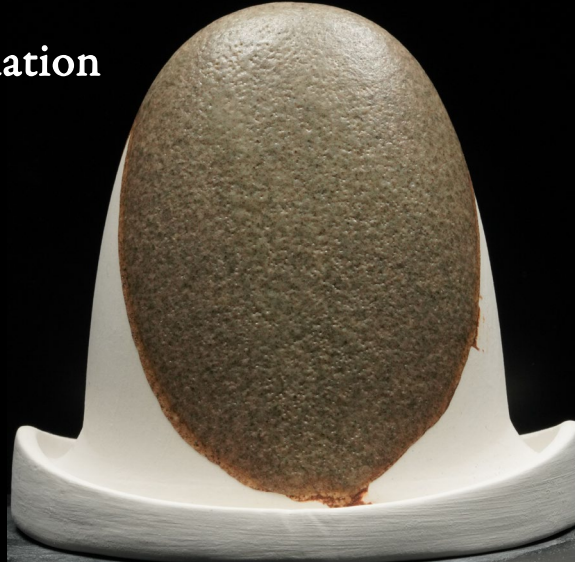
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



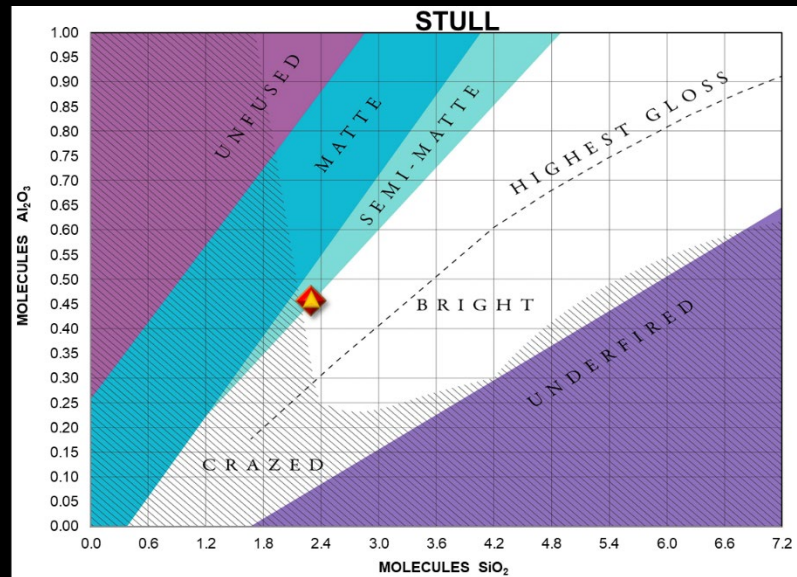
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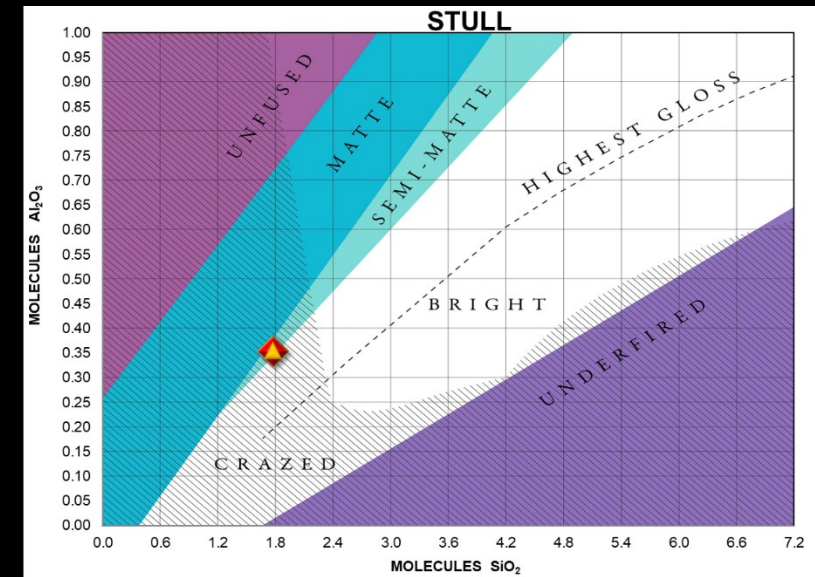
Yellow Iron Oxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.19		Alkaline Earths 0.81	
SiO ₂ 2.30	Collective "Al ₂ O ₃ " 0.46	Na ₂ O 0.16	K ₂ O 0.03	MgO 0.00	CaO 0.64
B ₂ O ₃ 0.13	Al ₂ O ₃ 0.46	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.16
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

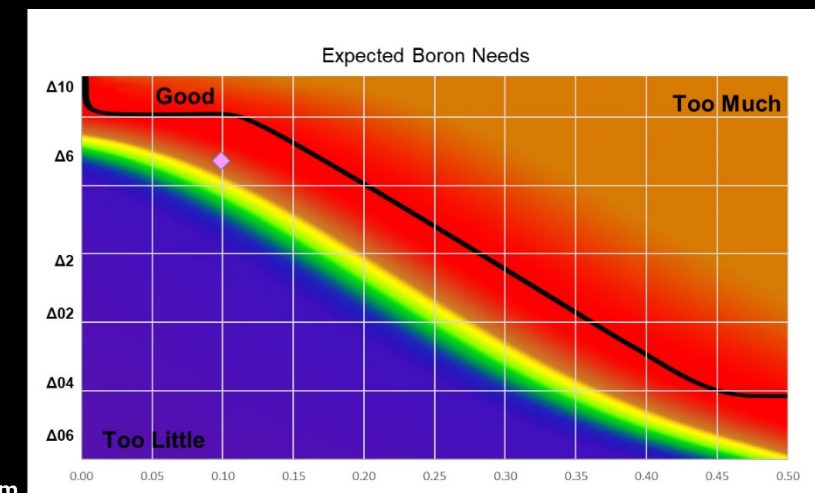


3%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.15		Alkaline Earths 0.85	
SiO ₂ 1.77	Collective "Al ₂ O ₃ " 0.36	Na ₂ O 0.13	K ₂ O 0.02	MgO 0.00	CaO 0.50
B ₂ O ₃ 0.10	Al ₂ O ₃ 0.35	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.35
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



Manganese Dioxide

Oxidation

Reduction

1%



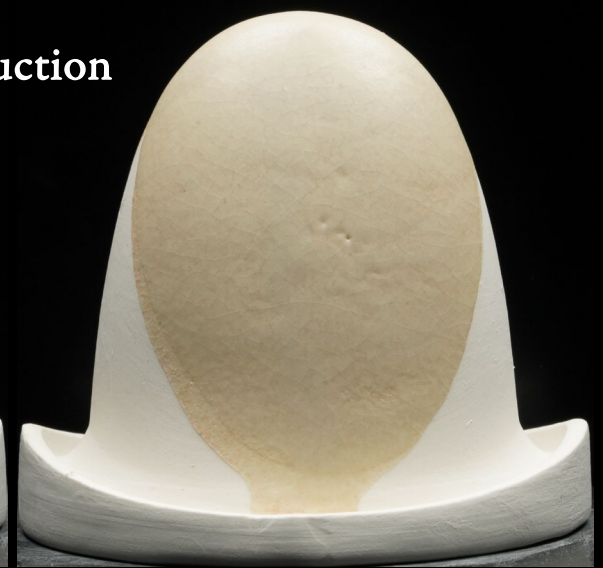
1-3 Second Dip



2-3 Second Dips

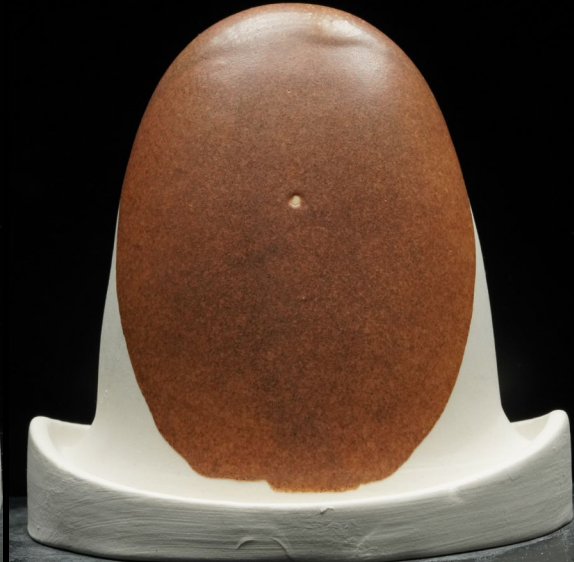


1-3 Second Dip



2-3 Second Dips

4%



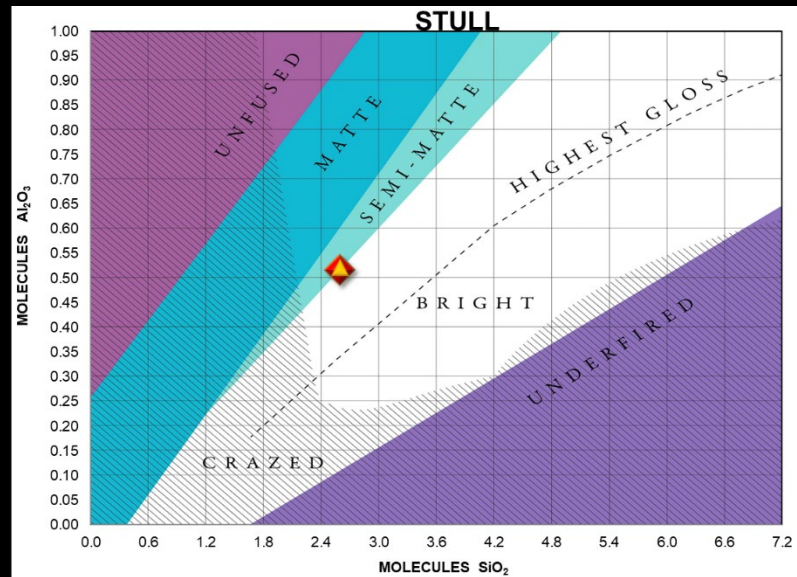
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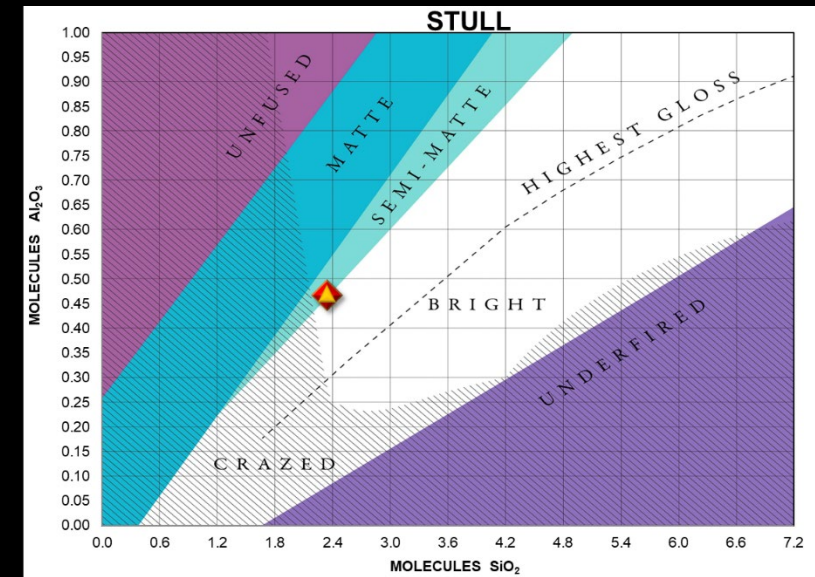
Manganese Dioxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.60	Collective "Al ₂ O ₃ " 0.52	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.00	CaO 0.72
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.52	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 0.04	CoO

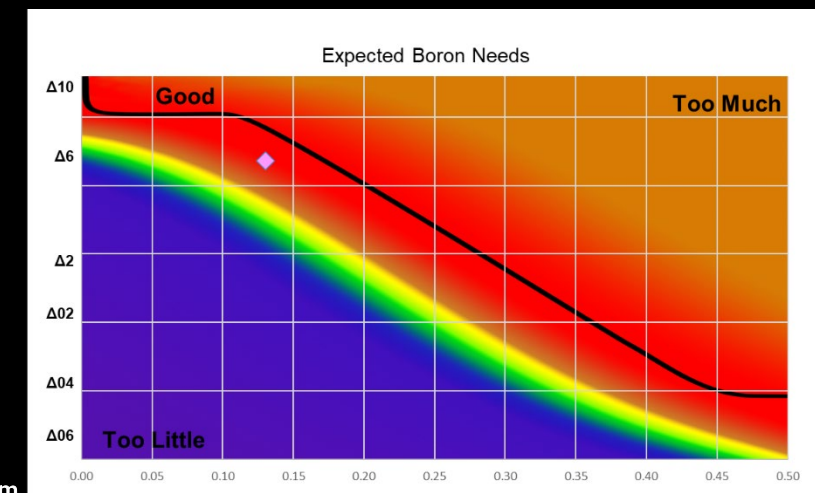
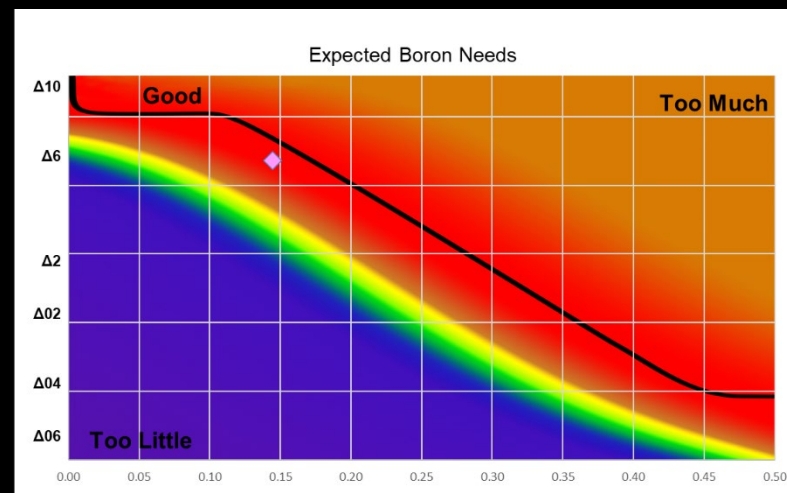


1%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 2.34	Collective "Al ₂ O ₃ " 0.47	Na ₂ O 0.17	K ₂ O 0.03	MgO 0.00	CaO 0.65
B ₂ O ₃ 0.13	Al ₂ O ₃ 0.47	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 0.13	CoO



4%



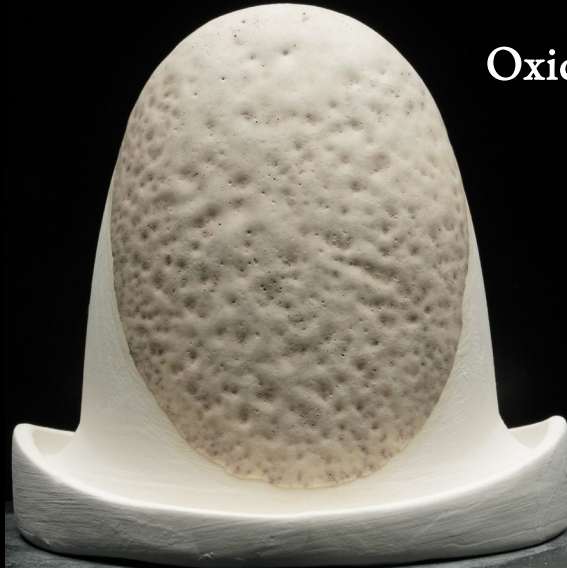
Ceramic
Materials
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Vanadium Pentoxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



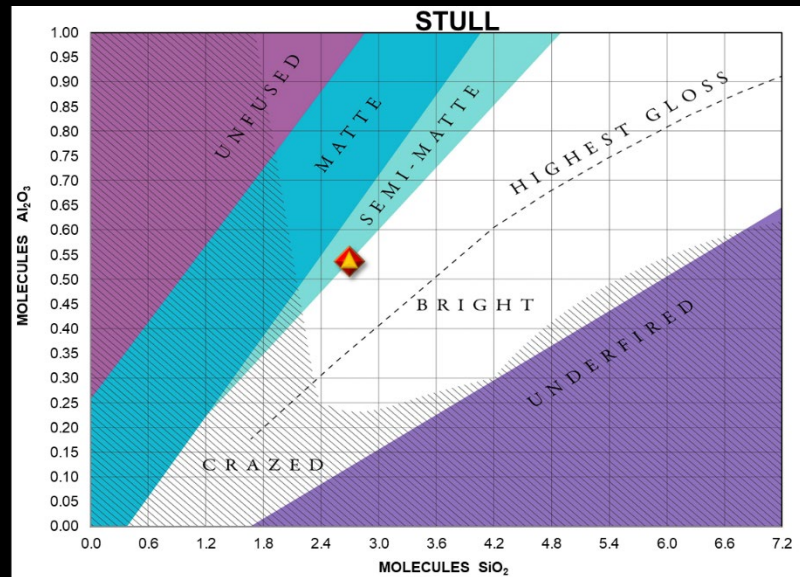
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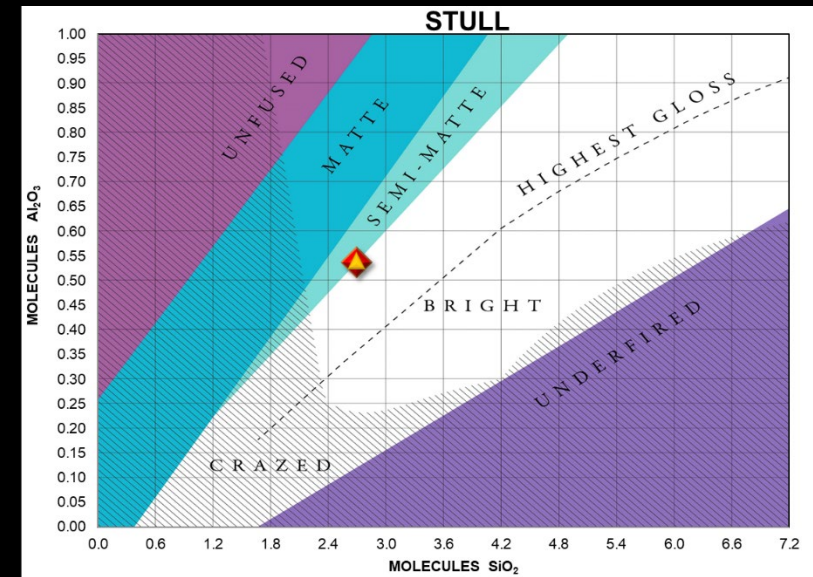
Vanadium Pentoxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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

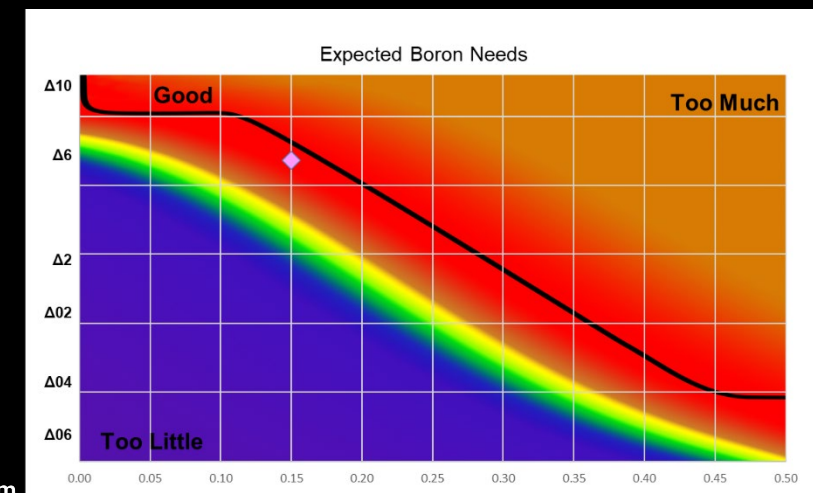
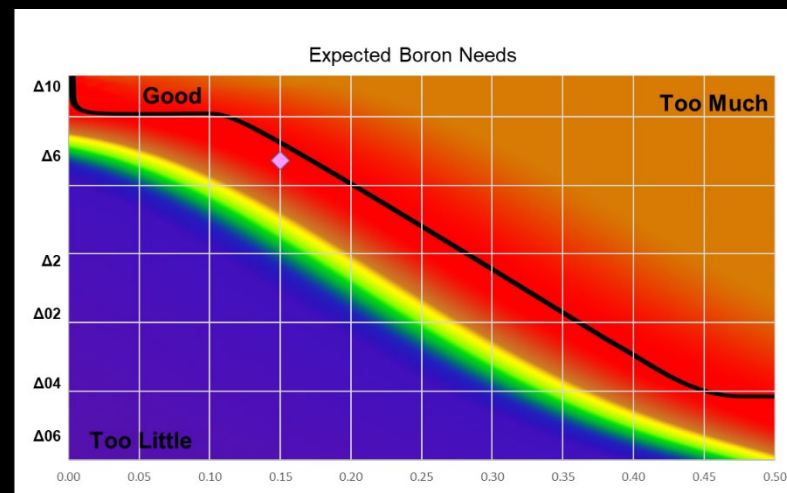


3%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



9%



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Dark Rutile

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



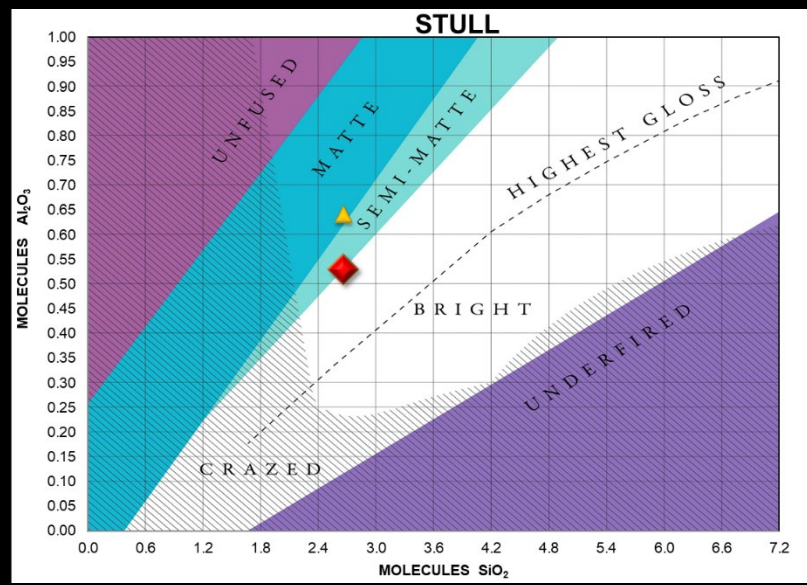
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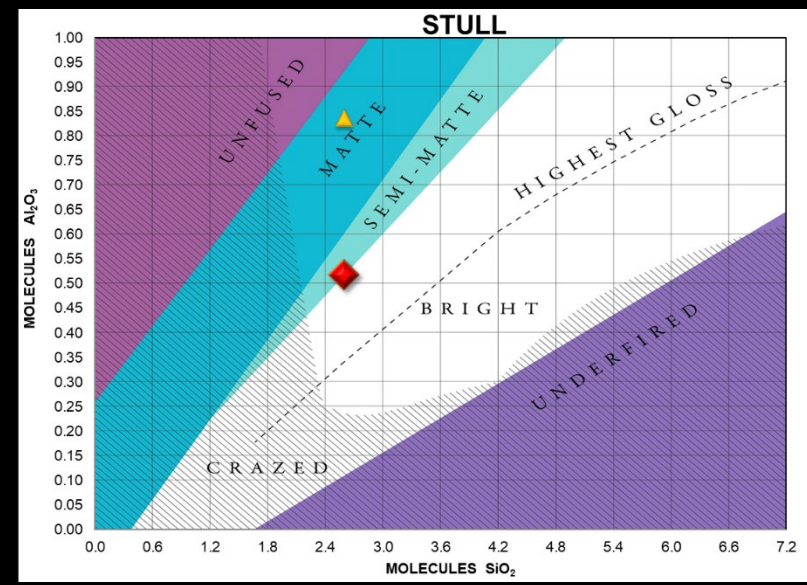
Dark Rutile

SiO ₂ :Al ₂ O ₃ Ratio 4.14 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.66	Collective "Al ₂ O ₃ " 0.64	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.74
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.53	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.11	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.03
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

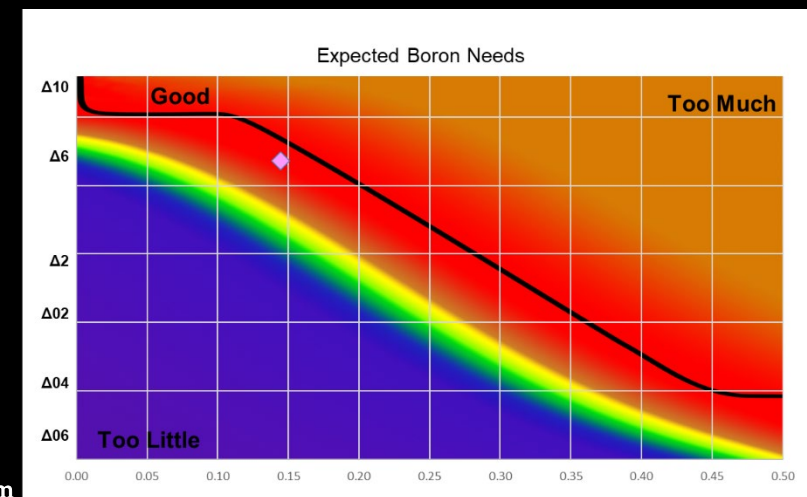


3%

SiO ₂ :Al ₂ O ₃ Ratio 3.10 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.60	Collective "Al ₂ O ₃ " 0.84	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.00	CaO 0.73
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.52	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.32	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.05
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



Light Rutile

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



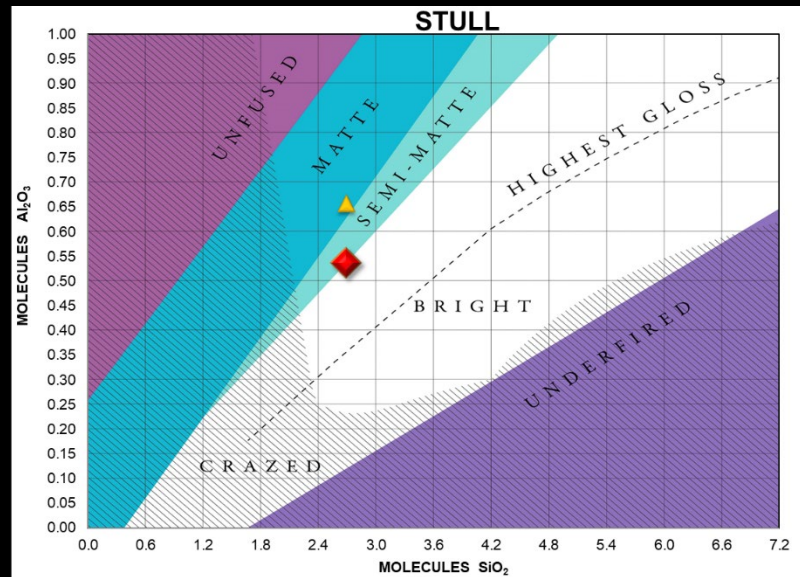
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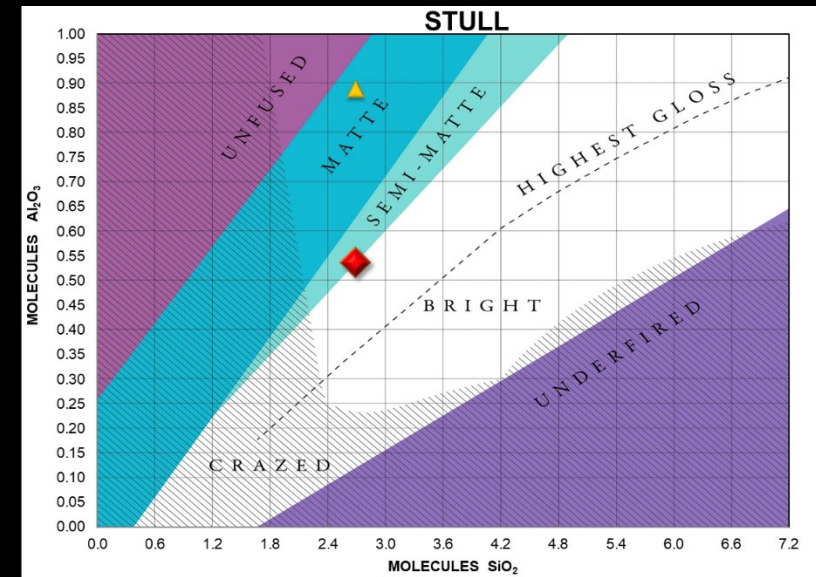
Light Rutile

SiO ₂ :Al ₂ O ₃ Ratio 4.09 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.66	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.12	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



3%

SiO ₂ :Al ₂ O ₃ Ratio 3.03 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.89	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.35	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



Titanium Dioxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



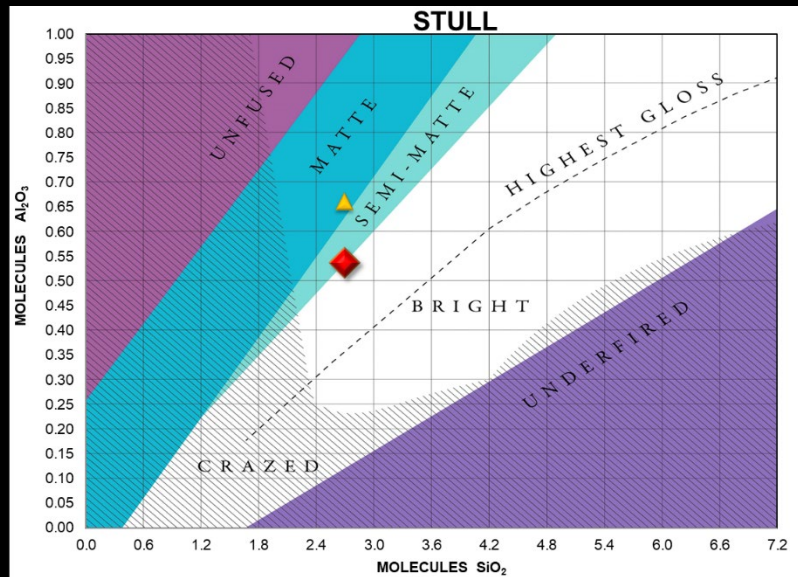
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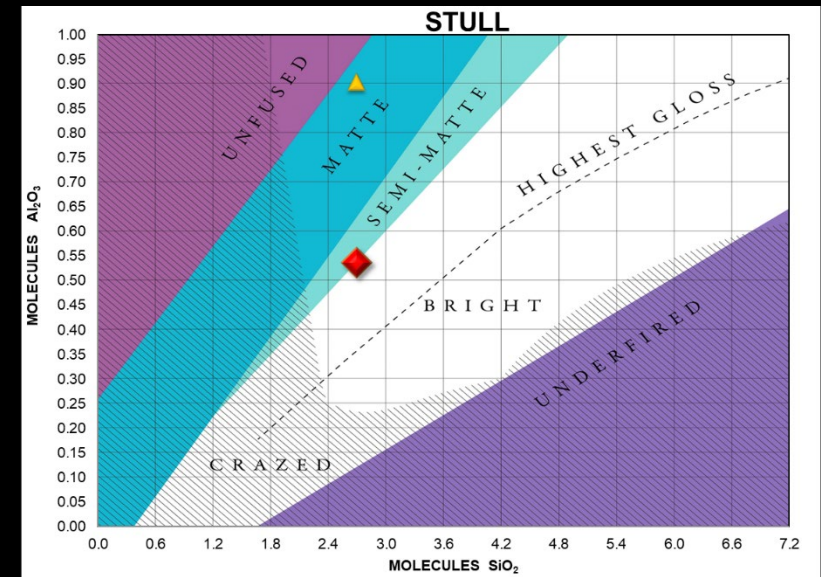
Titanium Dioxide

SiO ₂ :Al ₂ O ₃ Ratio 4.07 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.66	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.13	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

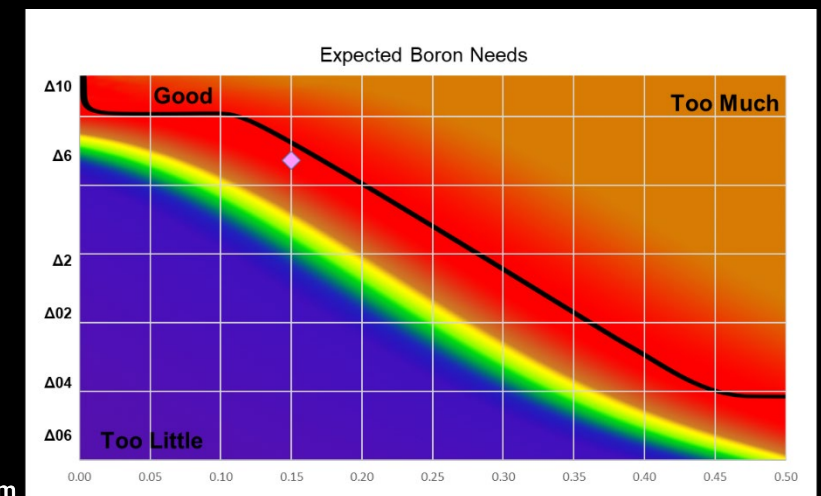


3%

SiO ₂ :Al ₂ O ₃ Ratio 2.98 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.90	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.37	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%



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Nickel Carbonate

Oxidation

Reduction

2%



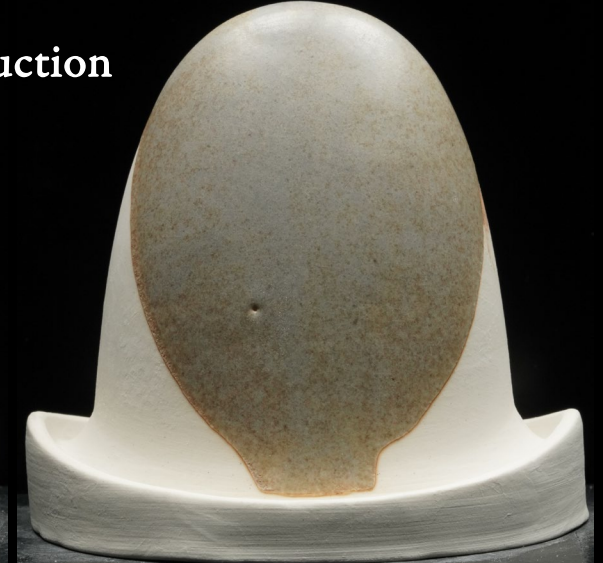
1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

6%



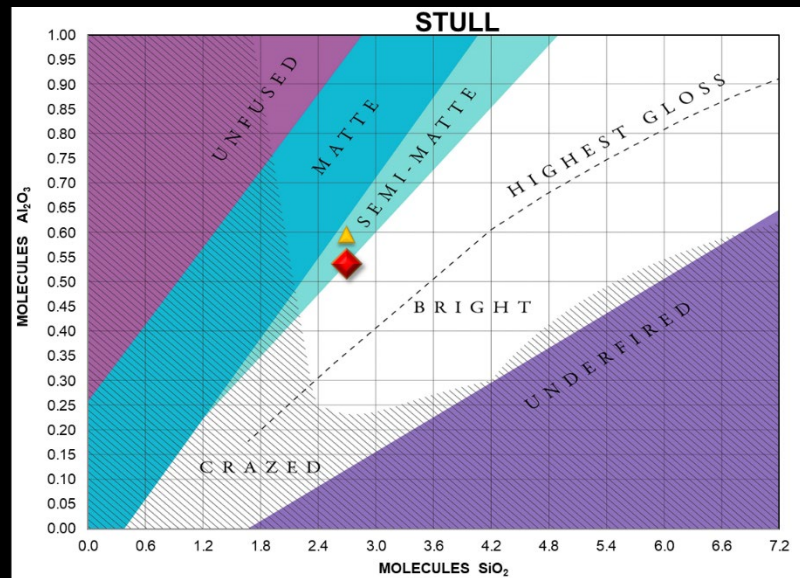
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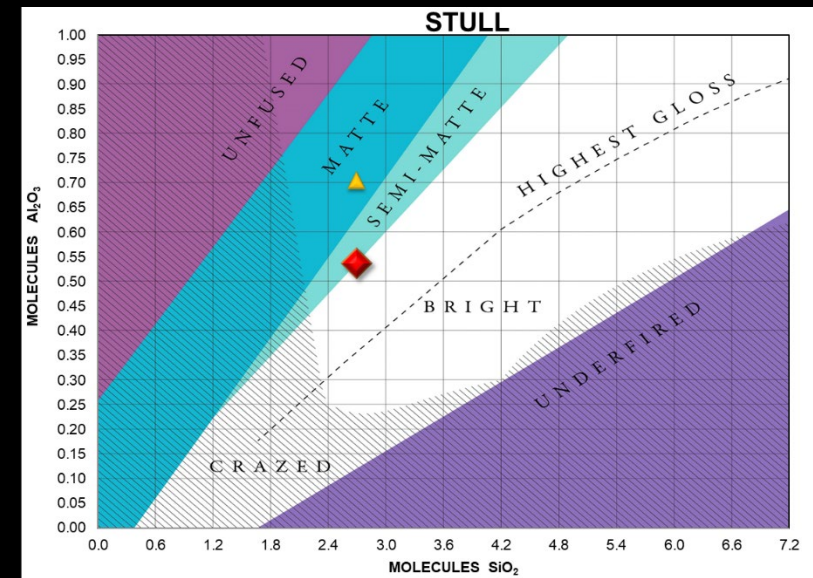
Nickel Carbonate

SiO ₂ :Al ₂ O ₃ Ratio 4.52 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.60	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO 0.05	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



2%

SiO ₂ :Al ₂ O ₃ Ratio 3.81 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.71	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO 0.16	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%



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Nickel Oxide-Black

Oxidation

Reduction

2%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

6%



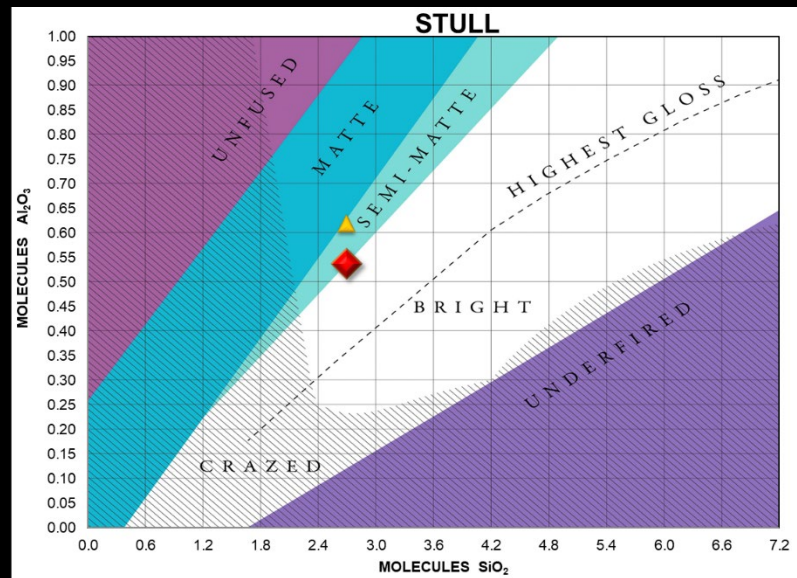
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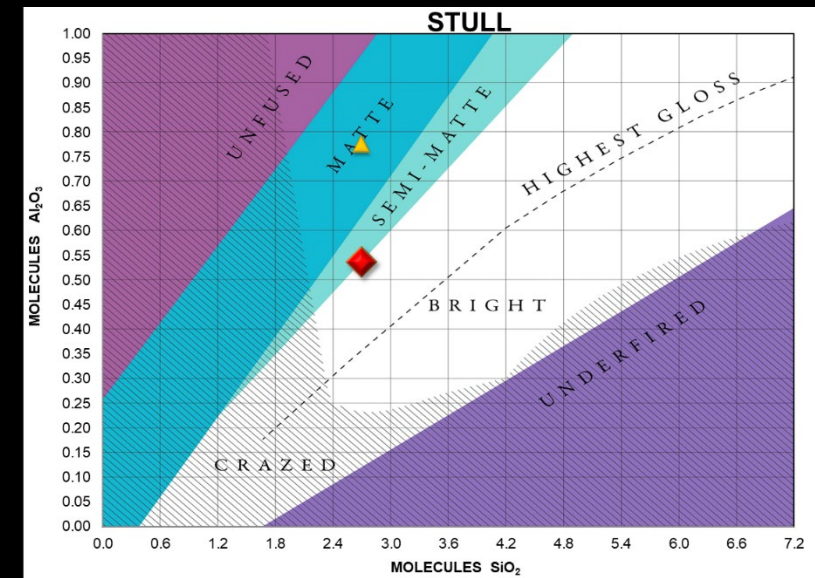
Nickel Oxide-Black

SiO ₂ :Al ₂ O ₃ Ratio 4.34 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.62	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO 0.08	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



2%

SiO ₂ :Al ₂ O ₃ Ratio 3.47 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.78	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO 0.24	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%



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Tin Oxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

6%



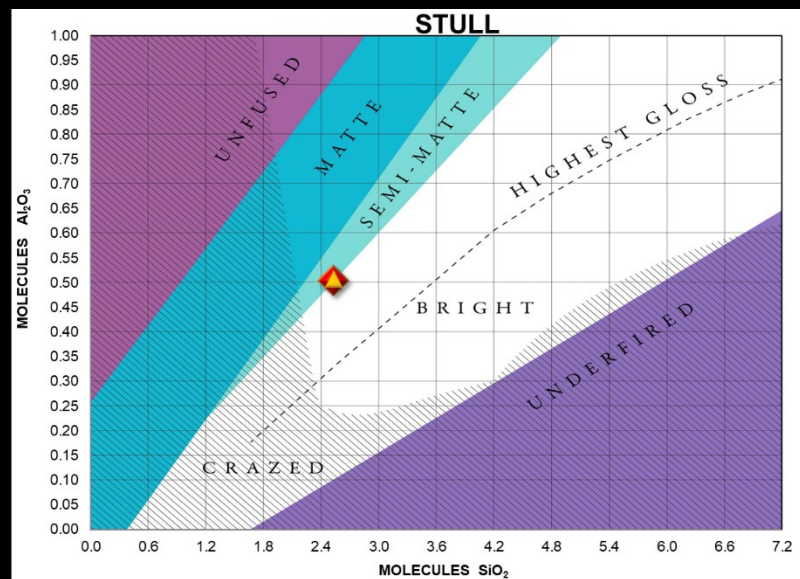
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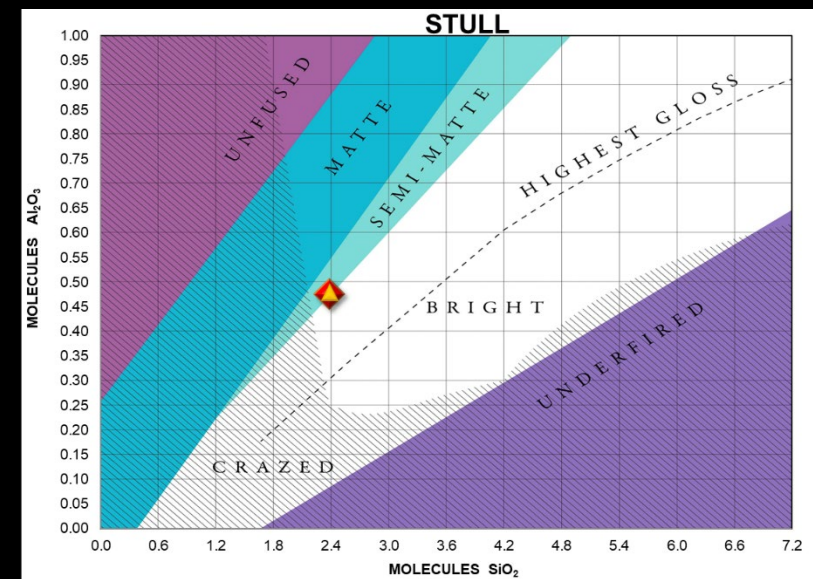
Tin Oxide

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.53	Collective "Al ₂ O ₃ " 0.51	Na ₂ O 0.18	K ₂ O 0.03	MgO 0.00	CaO 0.71
B ₂ O ₃ 0.14	Al ₂ O ₃ 0.50	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂ 0.06	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



3%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.32		Alkaline Earths 0.68	
SiO ₂ 2.38	Collective "Al ₂ O ₃ " 0.48	Na ₂ O 0.17	K ₂ O 0.03	MgO 0.00	CaO 0.67
B ₂ O ₃ 0.13	Al ₂ O ₃ 0.47	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂ 0.11	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%



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Zirconium Silicate

Oxidation

Reduction

5%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

10%



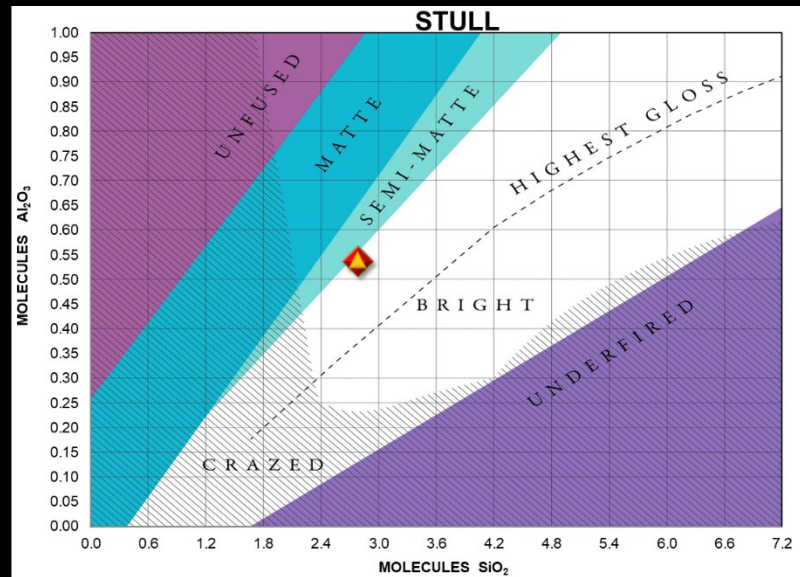
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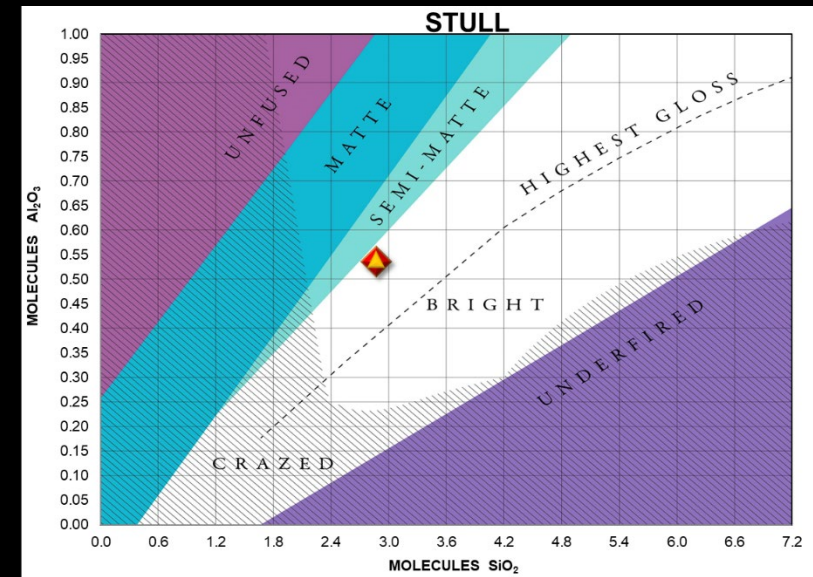
Zirconium Silicate

SiO ₂ :Al ₂ O ₃ Ratio 5.14 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.78	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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

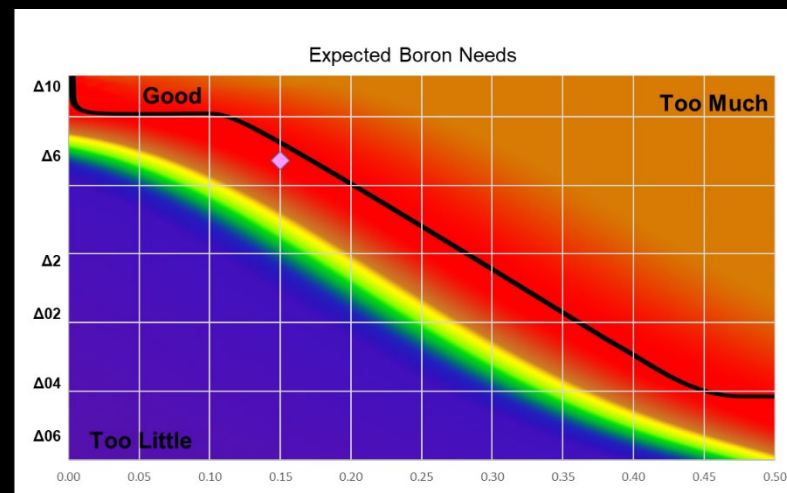


5%

SiO ₂ :Al ₂ O ₃ Ratio 5.30 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.87	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



10%



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Stain Dark Red 6021

5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

10%



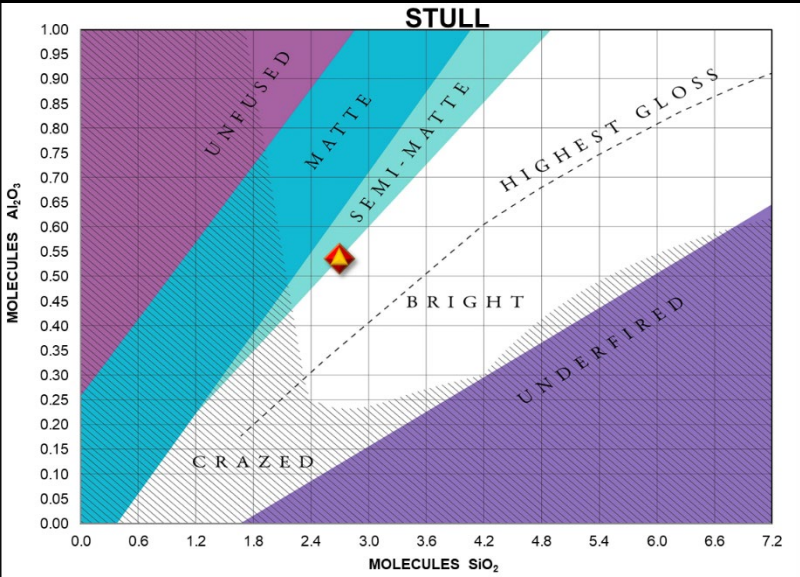
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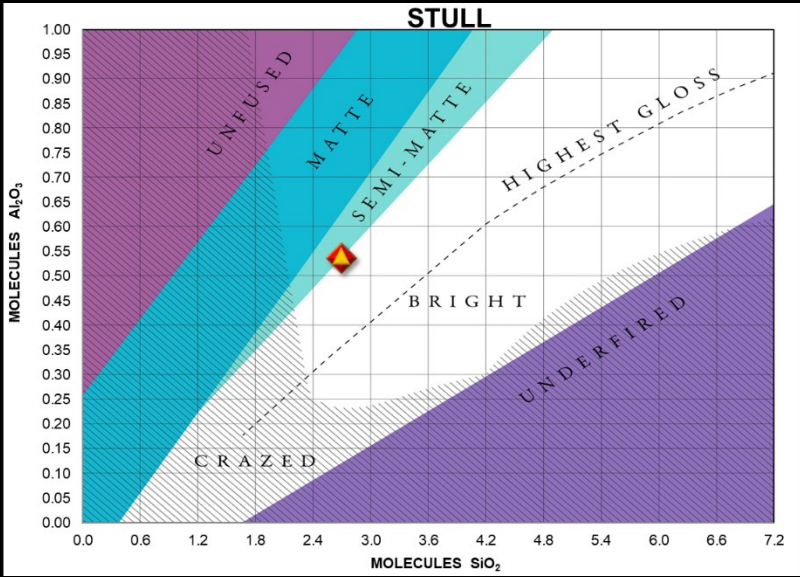
Stain Dark Red 6021

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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

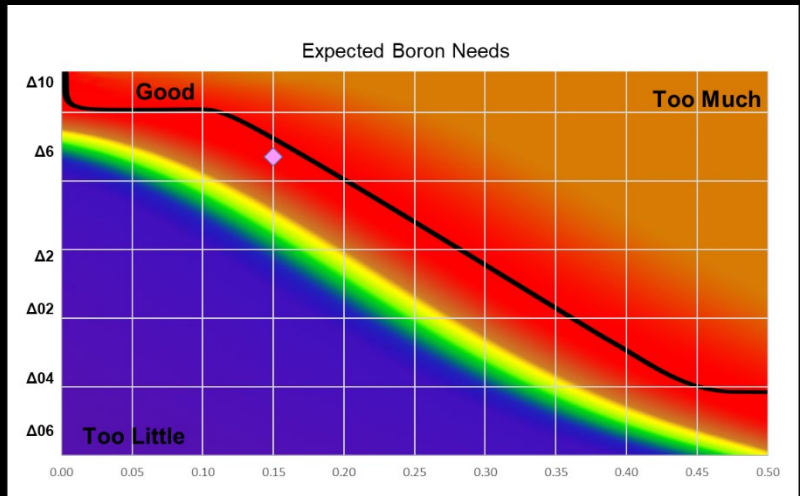
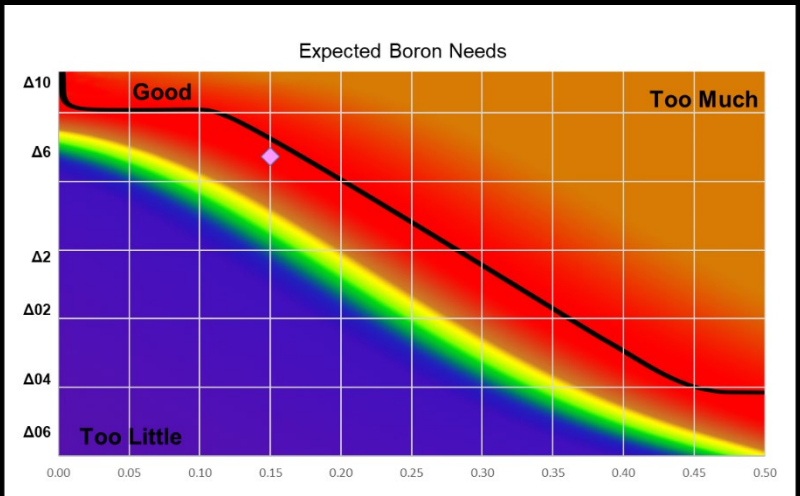


5%

SiO ₂ :Al ₂ O ₃ Ratio 4.97 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.69	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



10%



Silicon Carbide-30 Mesh

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



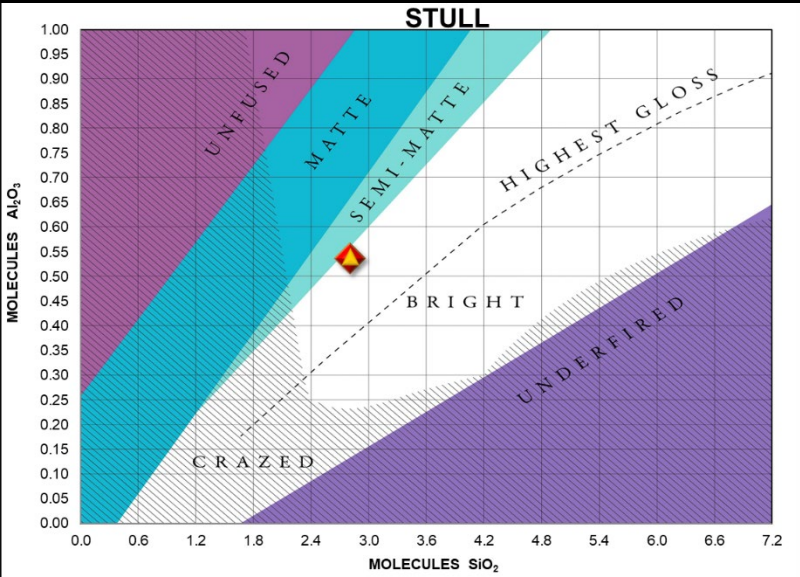
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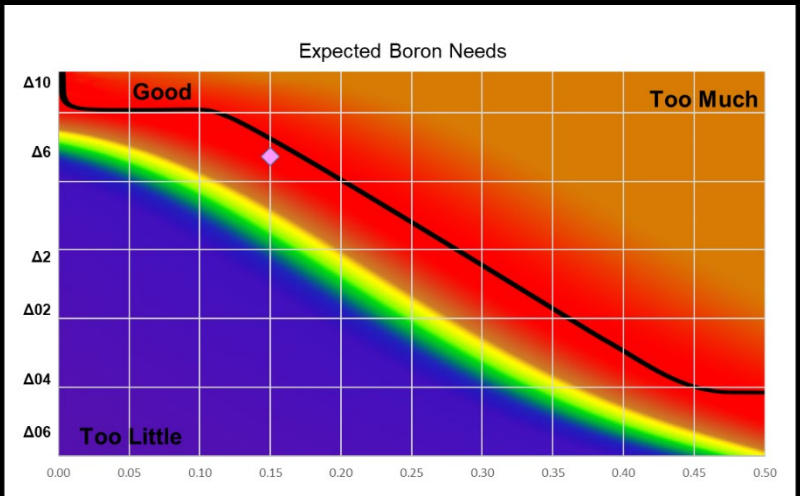
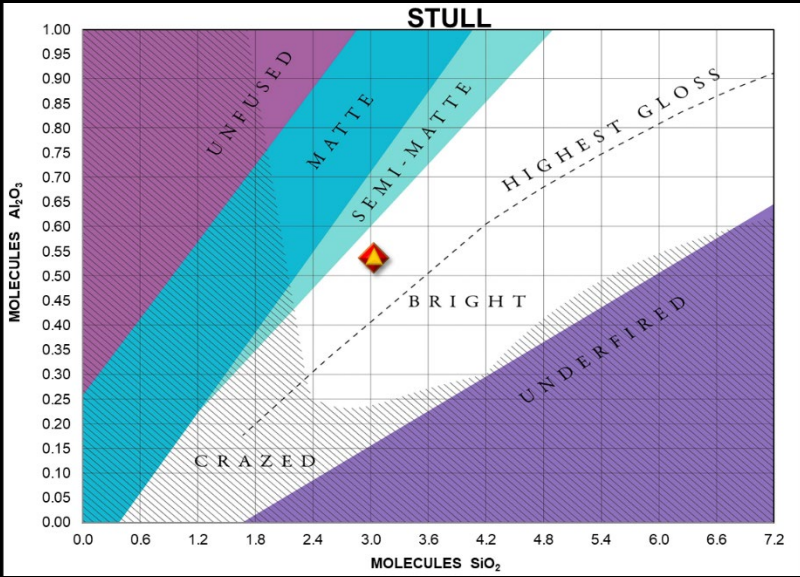
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Silicon Carbide-30 Mesh

SiO ₂ :Al ₂ O ₃ Ratio 5.18 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.81	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



SiO ₂ :Al ₂ O ₃ Ratio 5.60 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 3.04	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



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Silicon Carbide-800 Mesh

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



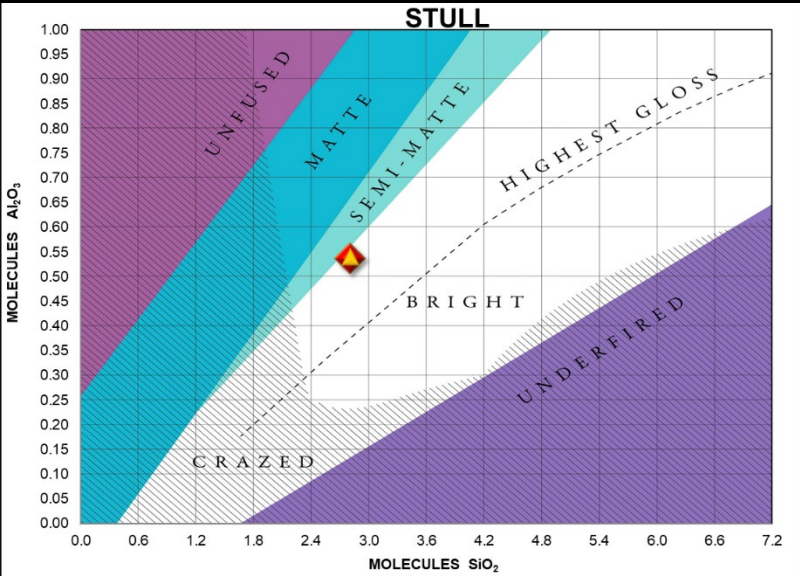
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Katz Burke Matte – 070522

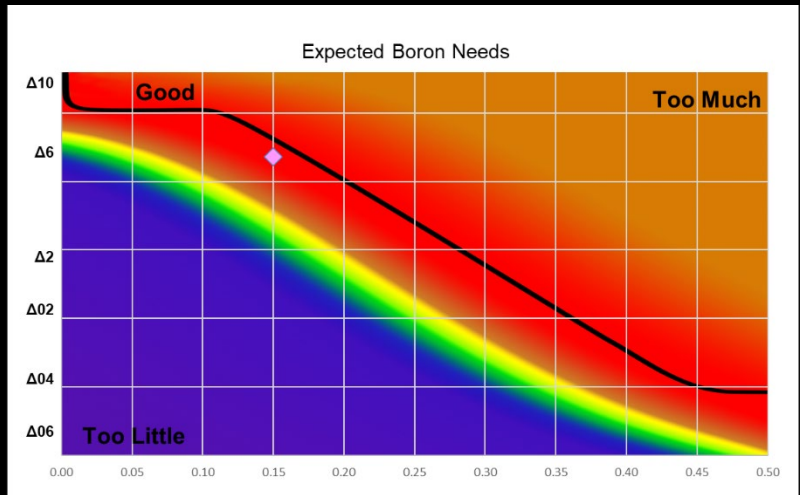
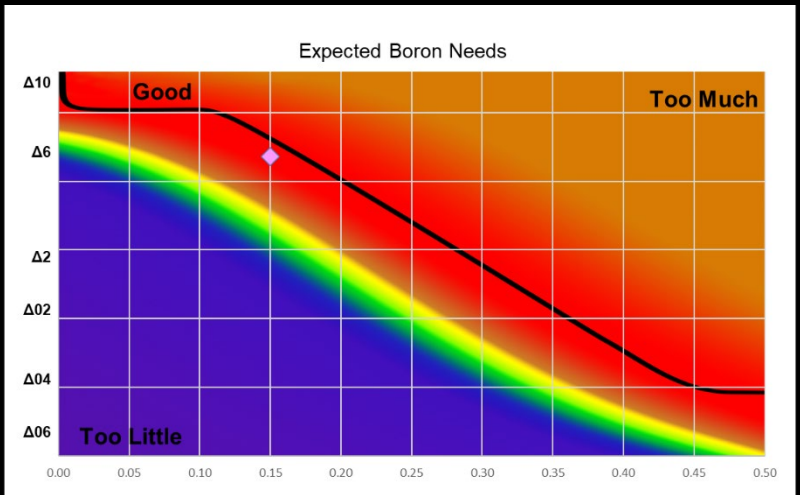
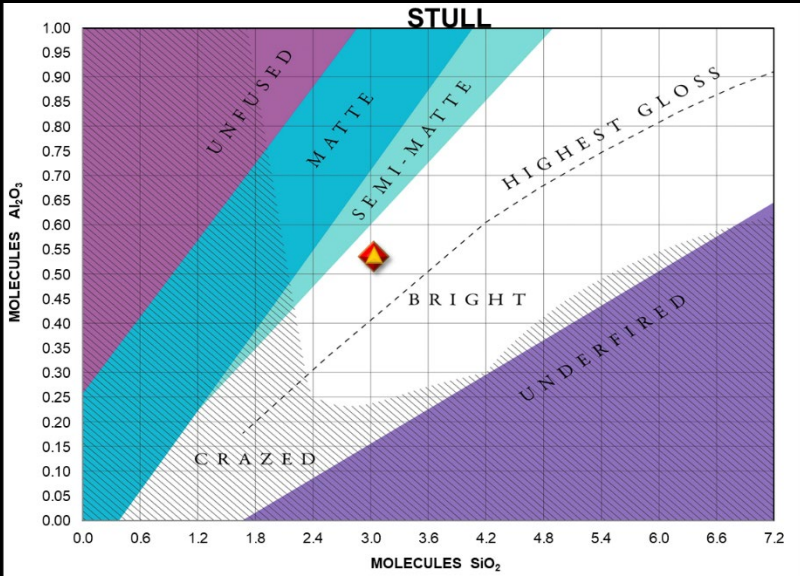
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Silicon Carbide-800 Mesh

SiO ₂ :Al ₂ O ₃ Ratio 5.18 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 2.81	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



SiO ₂ :Al ₂ O ₃ Ratio 5.60 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 3.04	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.19	K ₂ O 0.03	MgO 0.01	CaO 0.75
B ₂ O ₃ 0.15	Al ₂ O ₃ 0.54	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



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