

# Birdie's Nest- $\Delta 6$

Lab 2-Flux Capacity

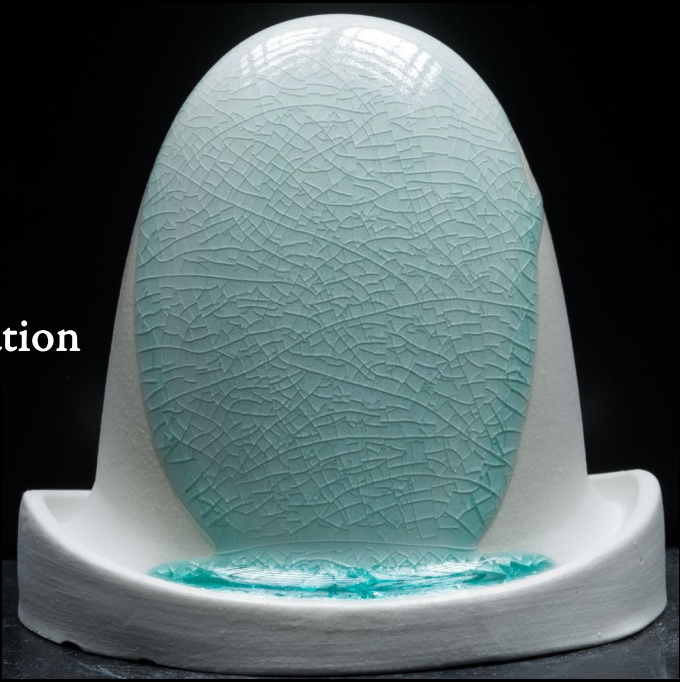
# Birdie's Nest

Original  
070722-1

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 60    |



1-3 Second Dip



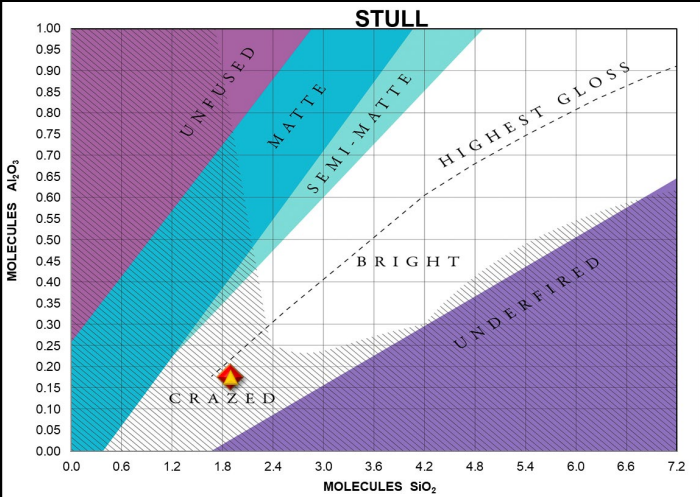
2-3 Second Dips



Reduction

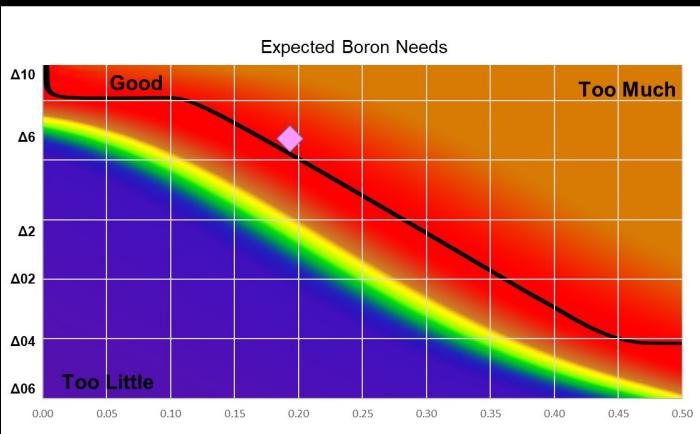
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.23          |                          | Alkaline Earths<br>0.77 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.91                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.20      | K <sub>2</sub> O<br>0.03 | MgO<br>0.25             | CaO<br>0.51 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.24          |                          | Alkaline Earths<br>0.76 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.90                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.20      | K <sub>2</sub> O<br>0.03 | MgO<br>0.25             | CaO<br>0.51 |
| B <sub>2</sub> O <sub>3</sub><br>0.19                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



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# Lab 2-Alkali Metals-Oxidation



070722-1



070722-8



070722-9

1-3 Second Dip



070722-10



070722-11



070722-12



Original (NS)



w/Custer



w/Mahavir

2-3 Second Dips



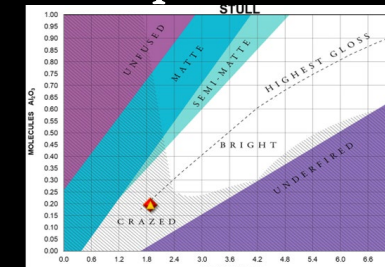
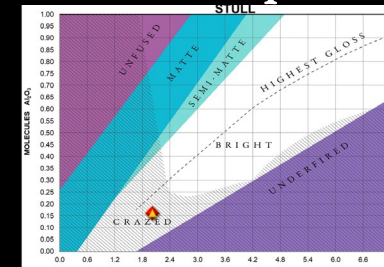
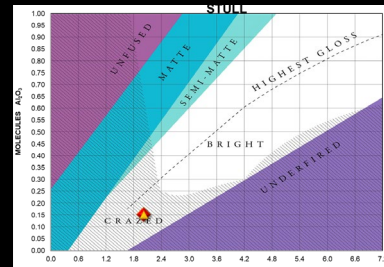
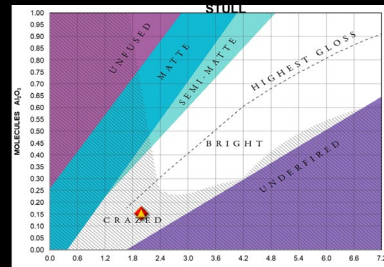
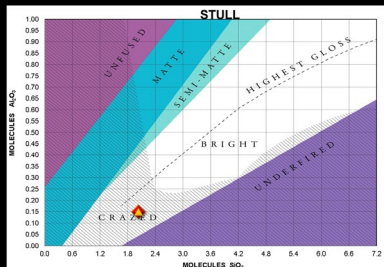
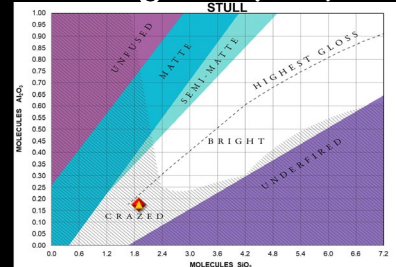
w/G200EU



w/ Minspar



w/Spodumene



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# Lab 2-Alkali Metals-Oxidation



070722-1



070722-14



070722-15

1-3 Second Dip

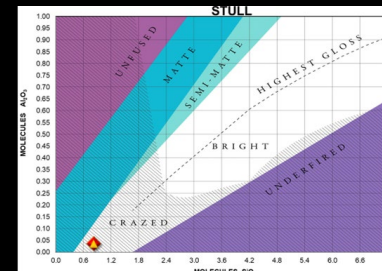
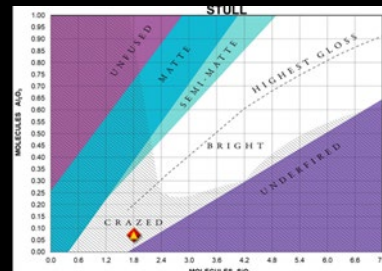
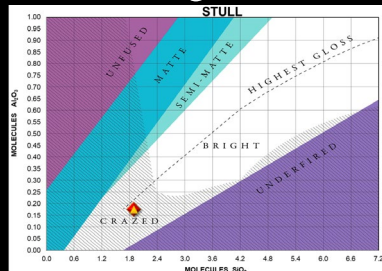


2-3 Second Dips

Original

w/Frit 3110

w/Lithium Carbonate



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# Lab 2-Alkali Metals-Reduction



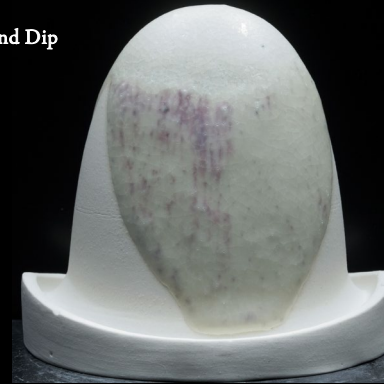
070722-1



070722-8



070722-9



070722-10



070722-11



070722-12

1-3 Second Dip

2-3 Second Dips



Original (D)



w/Custer



w/Mahavir



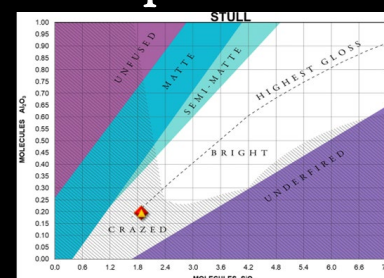
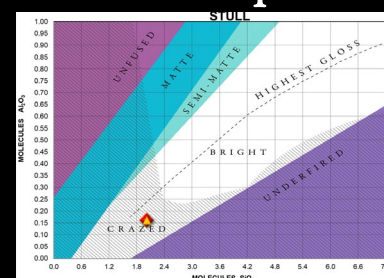
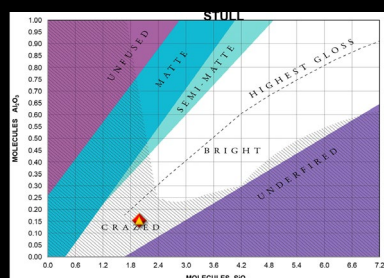
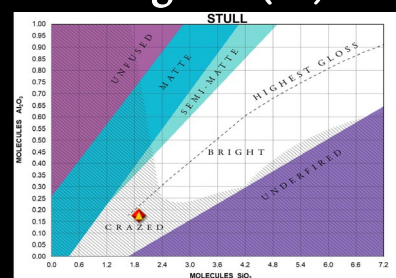
w/G200 EU



w/Minspar



w/Spodumene



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# Lab 2-Alkali Metals-Reduction

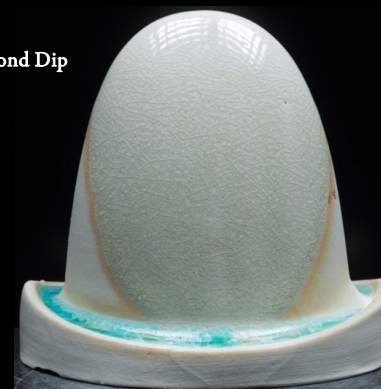


070722-1



070722-14

1-3 Second Dip



070722-15



Original

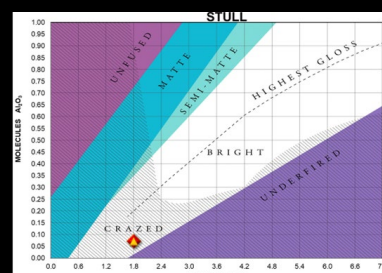
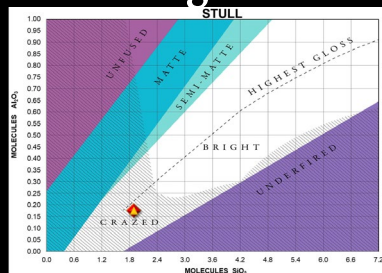


w/Frit 3110

2-3 Second Dips



w/Lithium Carbonate



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# Lab 2-Alkaline Earth-Oxidation



070722-1



070722-16



070722-17

1-3 Second Dip



070722-18



070722-19



070722-20



Original (D)



w/Talc

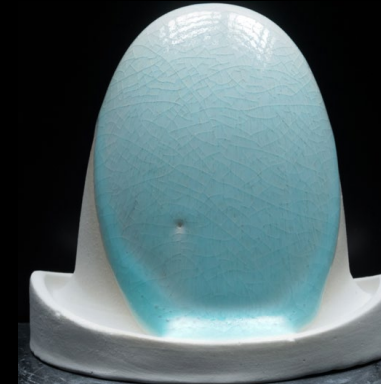


w/Mag Carb

2-3 Second Dips



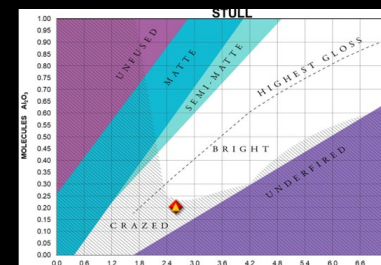
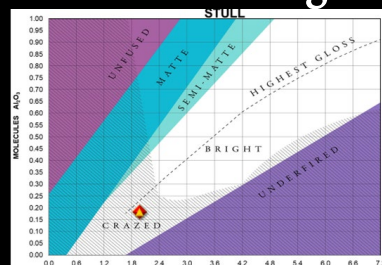
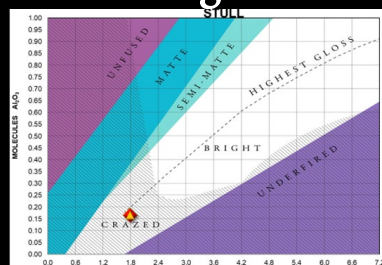
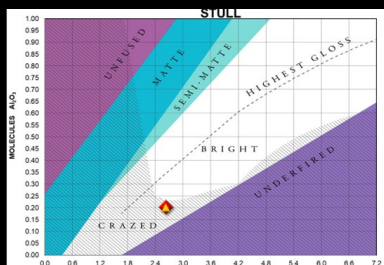
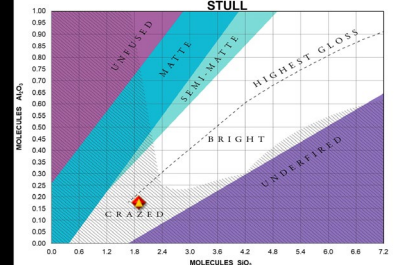
w/Whiting



w/Wollastonite



w/Strontium



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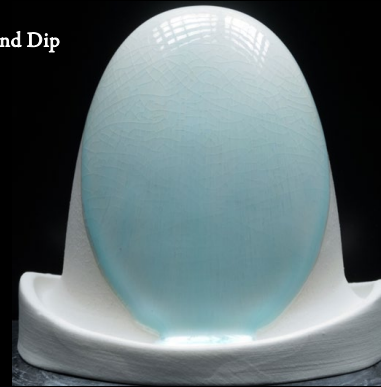
# Lab 2-Alkaline Earth-Oxidation



070422-1



070422-21



070422-22



070422-23

1-3 Second Dip



Original (D)



w/Barium Carb

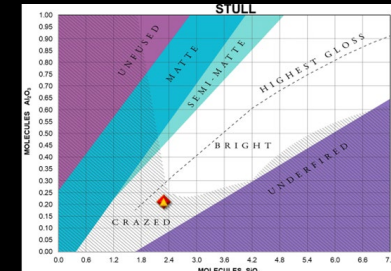
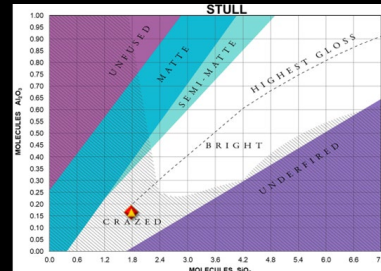
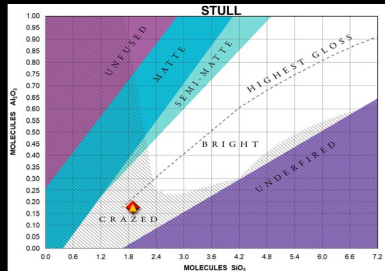


w/Zinc Oxide



w/Bone Ash

2-3 Second Dips



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# Lab 2-Alkaline Earth-Reduction



070722-1



070722-16



070722-17



070722-18



070722-19



070722-20



Original (D)



w/Talc



w/Mag Carb



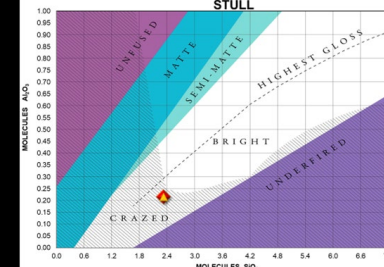
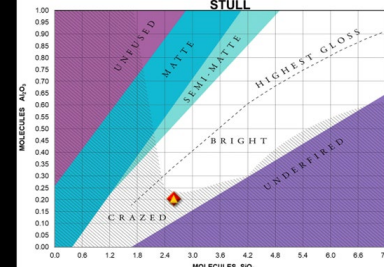
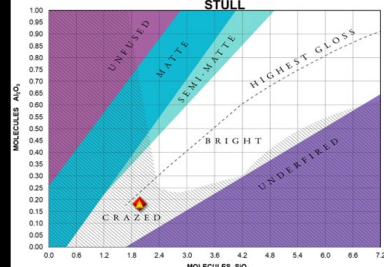
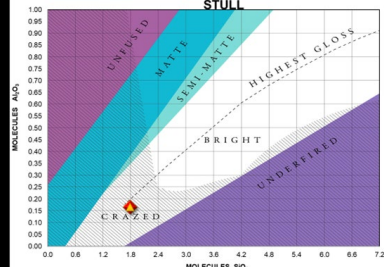
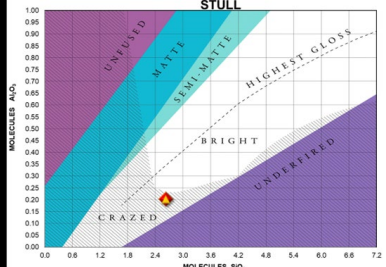
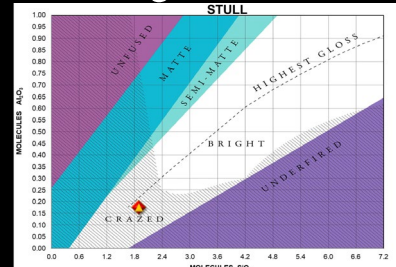
w/Whiting



w/Wollastonite



w/Strontium Carb



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# Lab 2-Alkaline Earth-Reduction



070422-1



070422-21



070422-22



070422-23

1-3 Second Dip

2-3 Second Dips



Original (D)



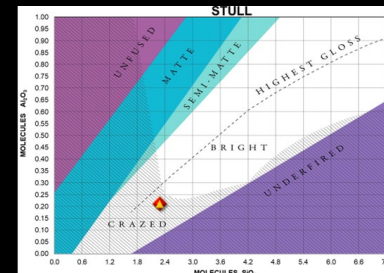
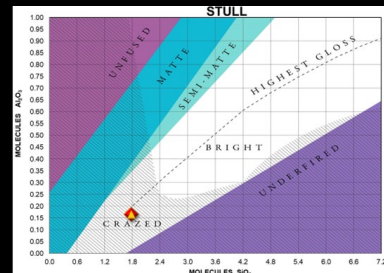
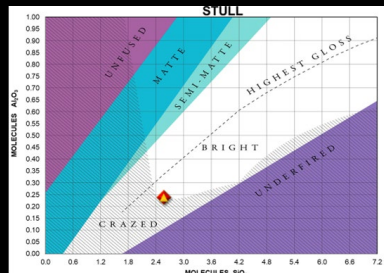
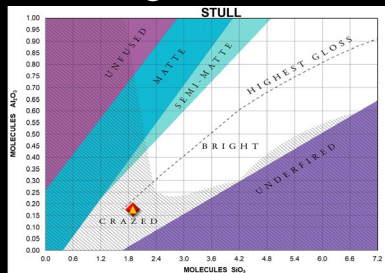
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



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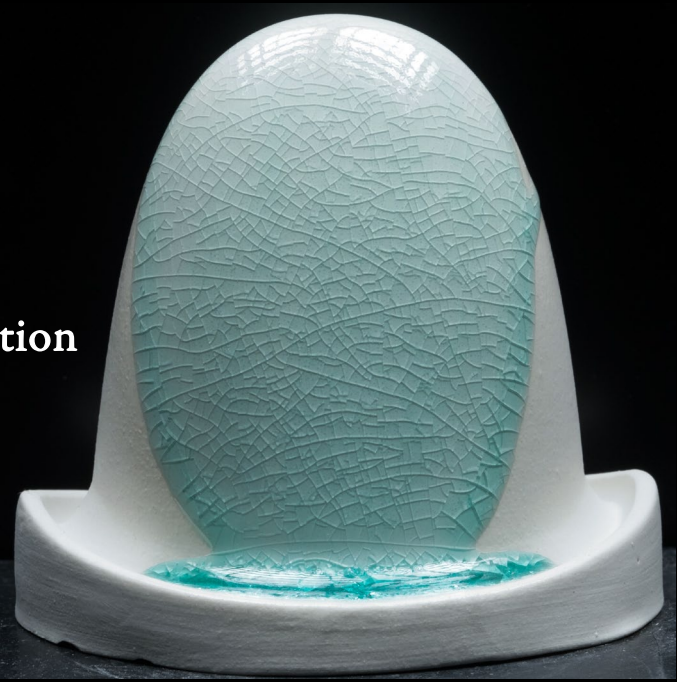
# Birdie's Nest

Original  
070722-1

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 60    |



1-3 Second Dip



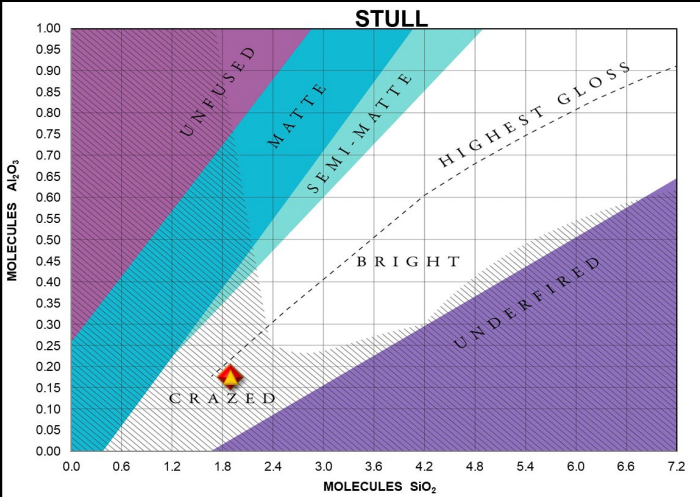
2-3 Second Dips



Reduction

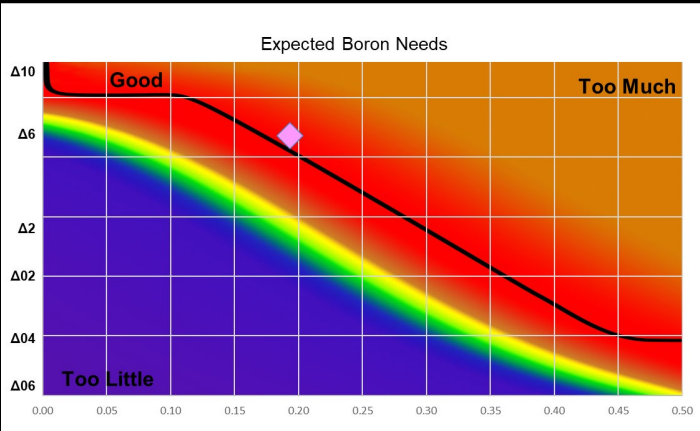
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.23          |                          | Alkaline Earths<br>0.77 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.91                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.20      | K <sub>2</sub> O<br>0.03 | MgO<br>0.25             | CaO<br>0.51 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.24          |                          | Alkaline Earths<br>0.76 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.90                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.20      | K <sub>2</sub> O<br>0.03 | MgO<br>0.25             | CaO<br>0.51 |
| B <sub>2</sub> O <sub>3</sub><br>0.19                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



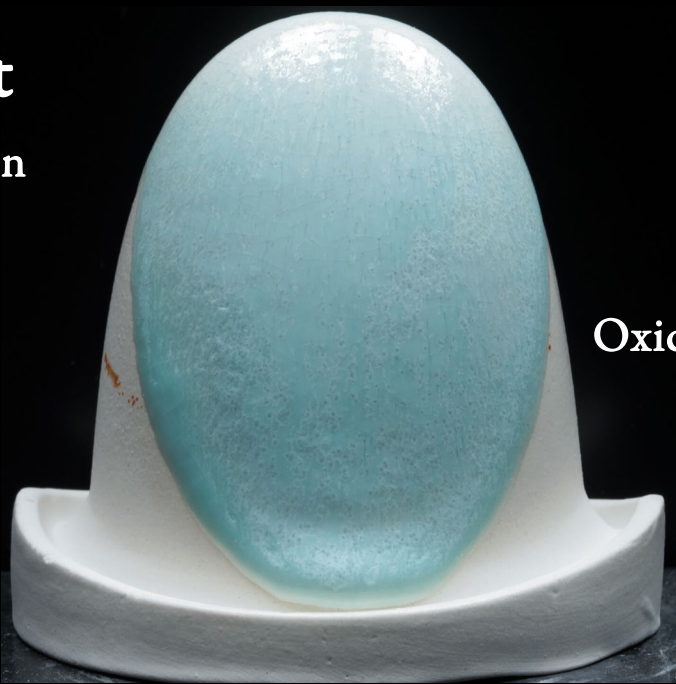
Ceramic  
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# Birdie's Nest

Weight Substitution  
Custer Feldspar

070722-8

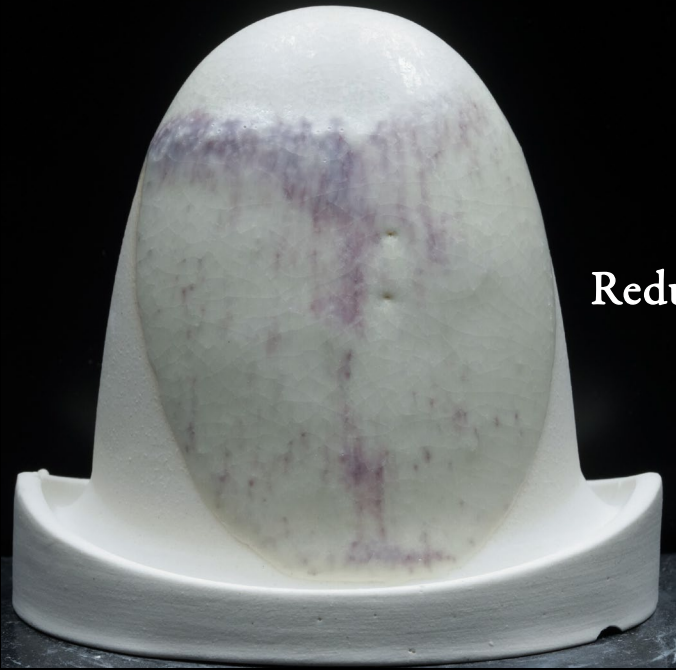
|                  |       |
|------------------|-------|
| Custer           | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 65    |



1-3 Second Dip



2-3 Second Dips

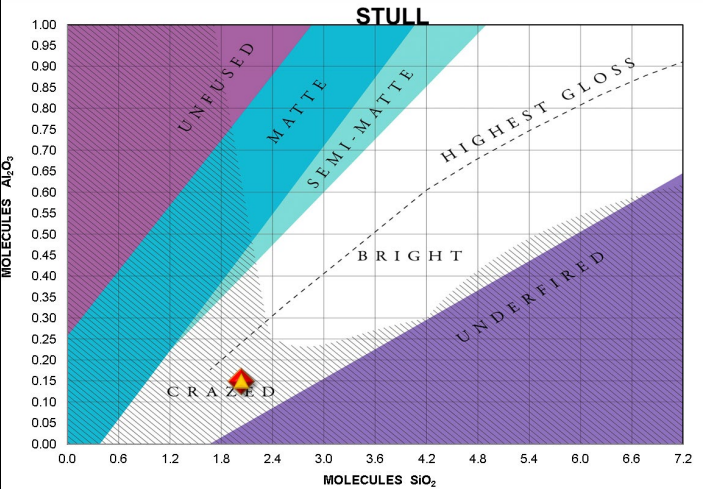


Reduction

Oxidation

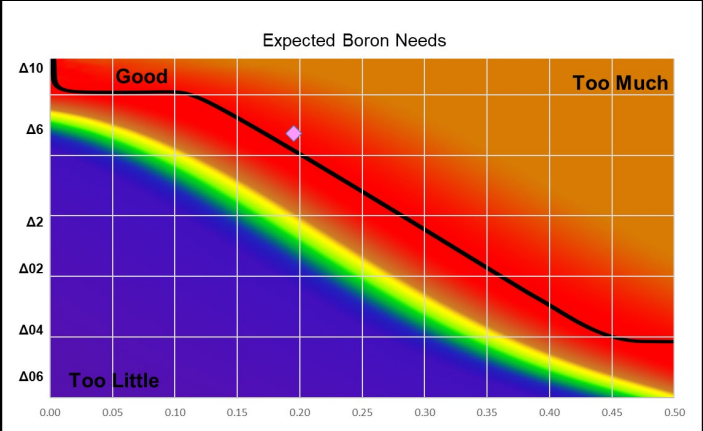
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>13.53 :1 |                                                      | Alkali Metals<br>0.20          |                          | Alkaline Earths<br>0.80 |             |
|--------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.06                                           | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.15 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.06 | MgO<br>0.26             | CaO<br>0.53 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                              | Al <sub>2</sub> O <sub>3</sub><br>0.15               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                           | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                     | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>13.53 :1 |                                                      | Alkali Metals<br>0.21          |                          | Alkaline Earths<br>0.79 |             |
|--------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.04                                           | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.15 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.06 | MgO<br>0.26             | CaO<br>0.53 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                              | Al <sub>2</sub> O <sub>3</sub><br>0.15               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                           | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                     | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



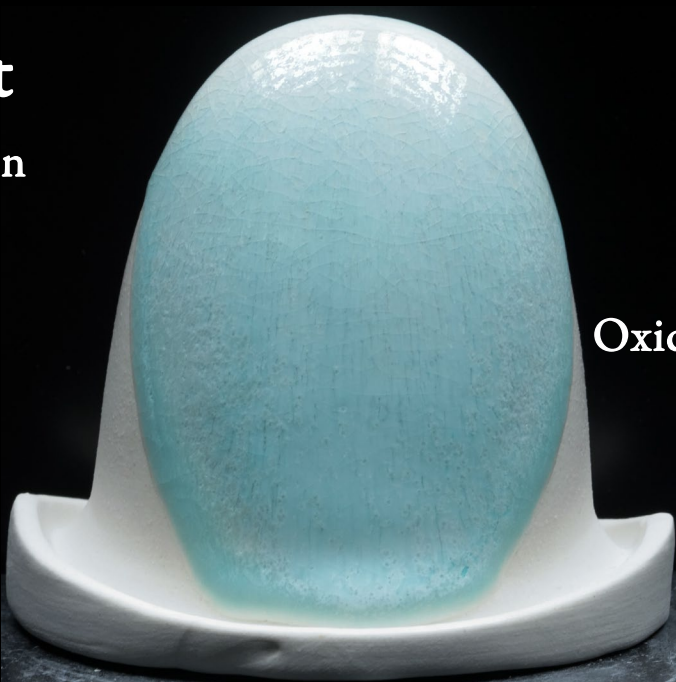
Ceramic  
Materials  
Workshop

# Birdie's Nest

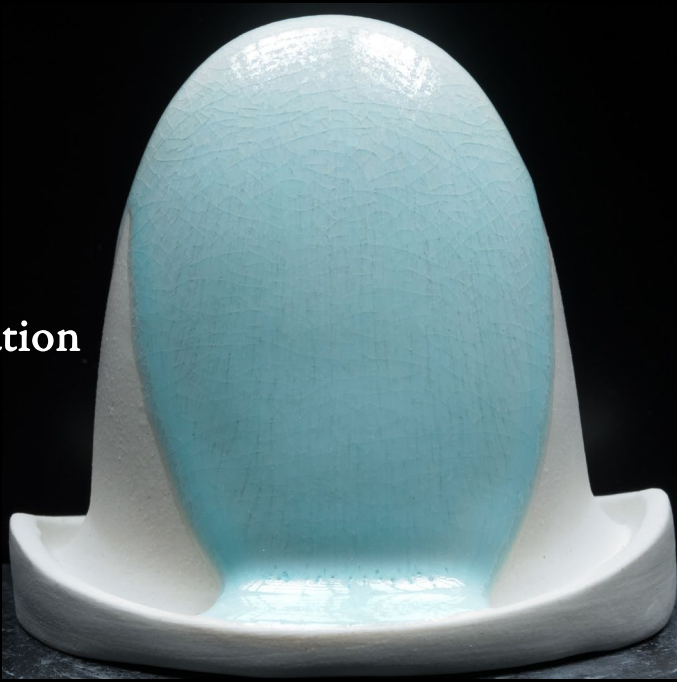
Weight Substitution  
Mahavir Feldspar

070722-9

|                  |       |
|------------------|-------|
| Mahavir          | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 65    |



1-3 Second Dip



2-3 Second Dips



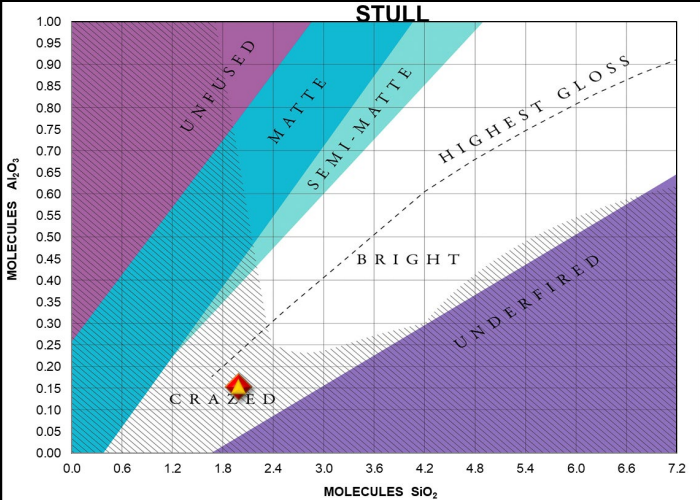
Reduction



Oxidation

UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.84 : 1 |                                                      | Alkali Metals<br>0.21          |                          | Alkaline Earths<br>0.79 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.01                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.16 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.07 | MgO<br>0.26             | CaO<br>0.52 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.16               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.84 : 1 |                                                      | Alkali Metals<br>0.22          |                          | Alkaline Earths<br>0.78 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.99                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.15 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.07 | MgO<br>0.26             | CaO<br>0.52 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.15               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



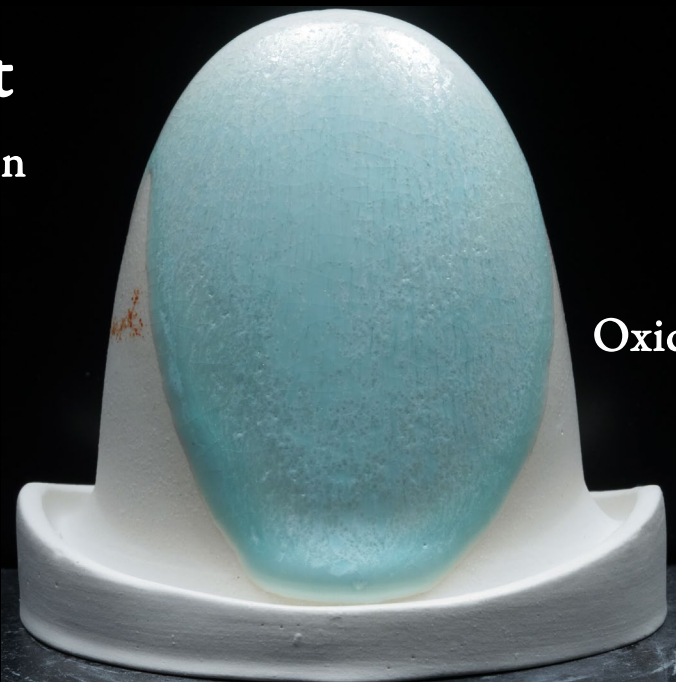
Ceramic  
Materials  
Workshop

# Birdie's Nest

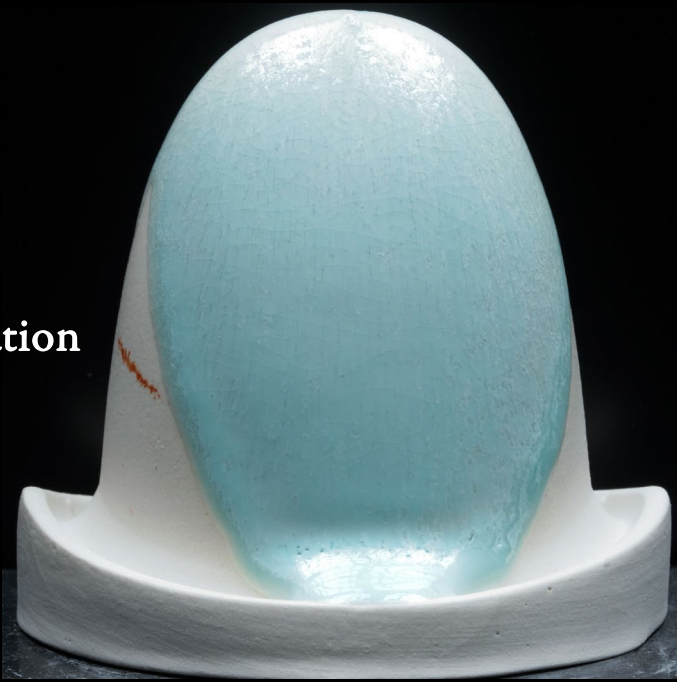
Weight Substitution  
G200 EU

070722-10

|                  |       |
|------------------|-------|
| G200 EU          | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 60    |



1-3 Second Dip



2-3 Second Dips



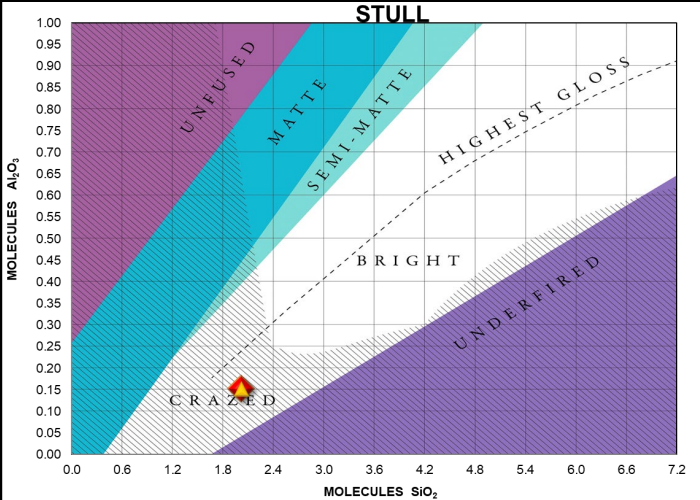
Reduction



Reduction

UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>13.16 : 1 |                                                      | Alkali Metals<br>0.20          |                          | Alkaline Earths<br>0.80 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.04                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.15 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.07 | MgO<br>0.26             | CaO<br>0.53 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.15               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>13.16 : 1 |                                                      | Alkali Metals<br>0.21          |                          | Alkaline Earths<br>0.79 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.02                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.15 | Na <sub>2</sub> O<br>0.14      | K <sub>2</sub> O<br>0.07 | MgO<br>0.26             | CaO<br>0.53 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.15               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



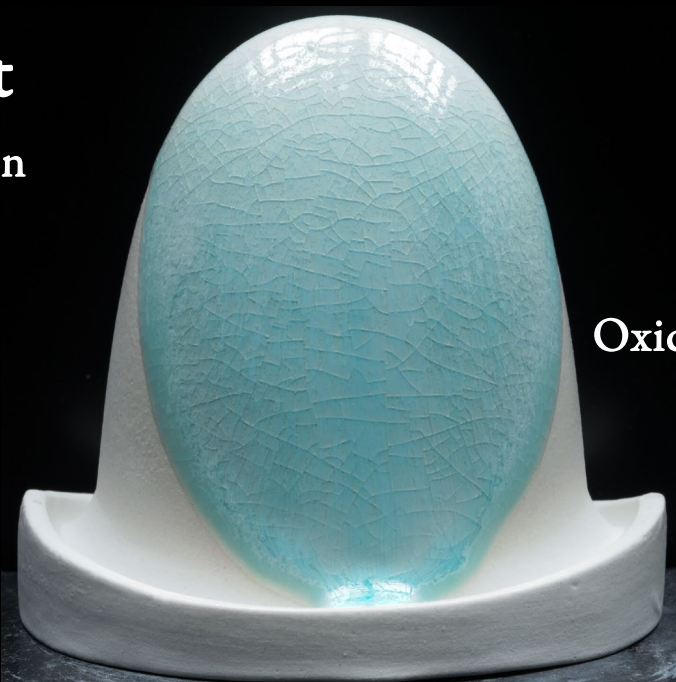
Ceramic  
Materials  
Workshop

# Birdie's Nest

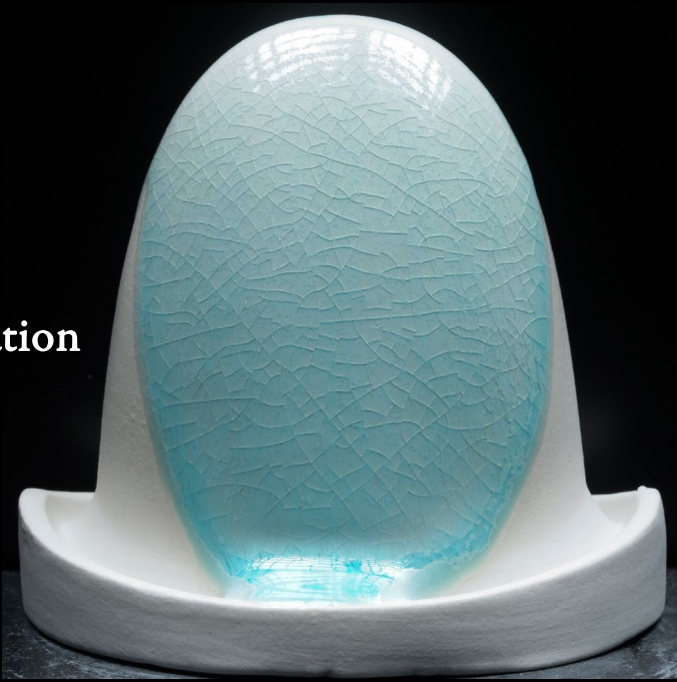
Weight Substitution  
Minspar Feldspar

070722-11

|                  |       |
|------------------|-------|
| Minspar          | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 70    |



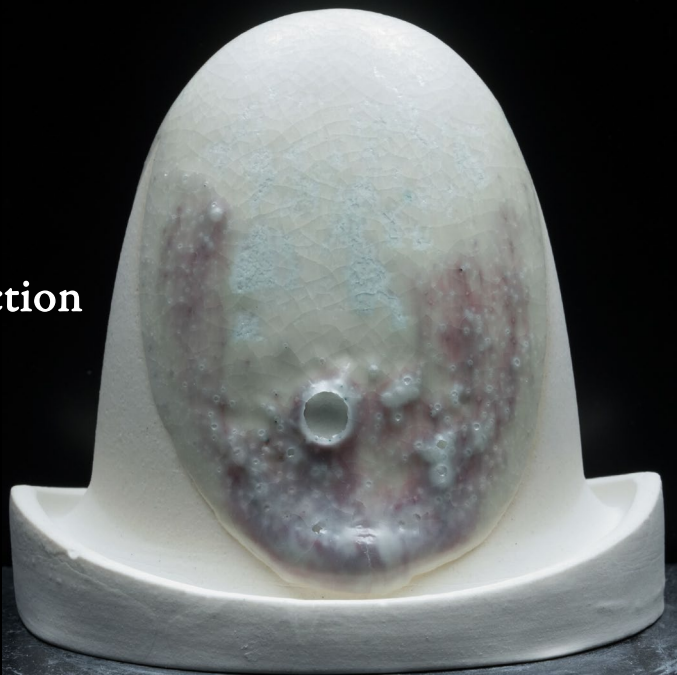
1-3 Second Dip



2-3 Second Dips



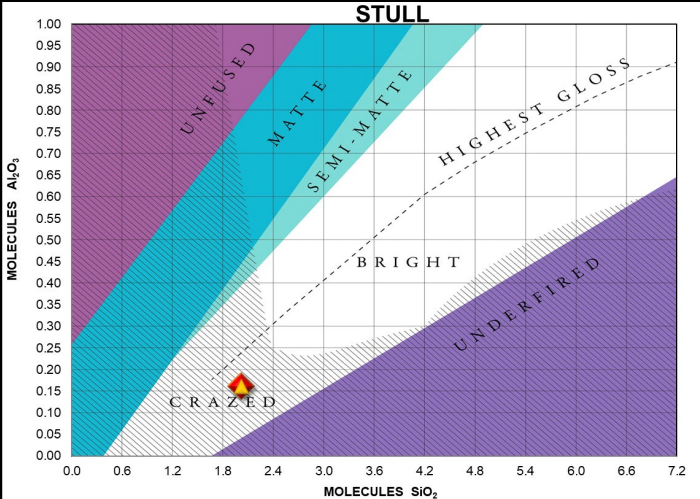
Reduction



Oxidation

UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.45 : 1 |                                                      | Alkali Metals<br>0.20          |                          | Alkaline Earths<br>0.80 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.04                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.16 | Na <sub>2</sub> O<br>0.17      | K <sub>2</sub> O<br>0.02 | MgO<br>0.26             | CaO<br>0.54 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.16               | Li <sub>2</sub> O              | CuO                      | SrO<br>0.00             | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.45 : 1 |                                                      | Alkali Metals<br>0.21          |                          | Alkaline Earths<br>0.79 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.02                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.16 | Na <sub>2</sub> O<br>0.17      | K <sub>2</sub> O<br>0.02 | MgO<br>0.26             | CaO<br>0.53 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.16               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO<br>0.00             | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



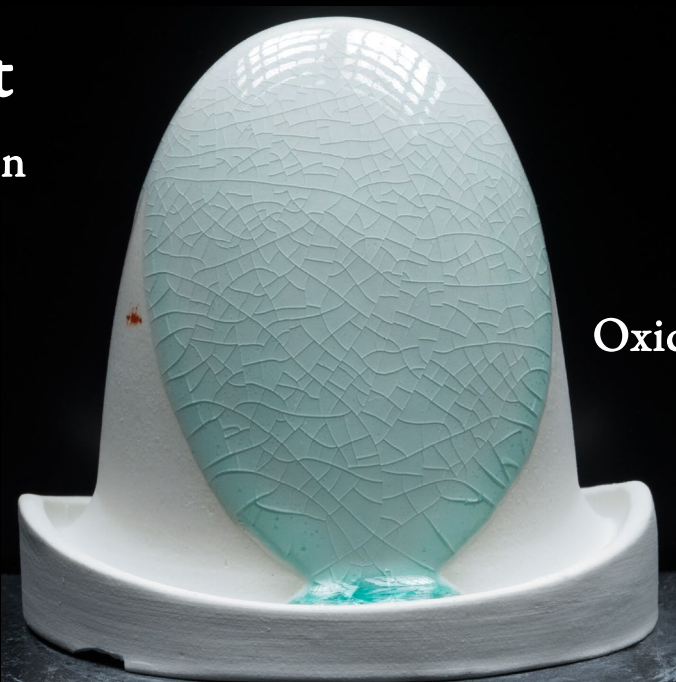
Ceramic  
Materials  
Workshop

# Birdie's Nest

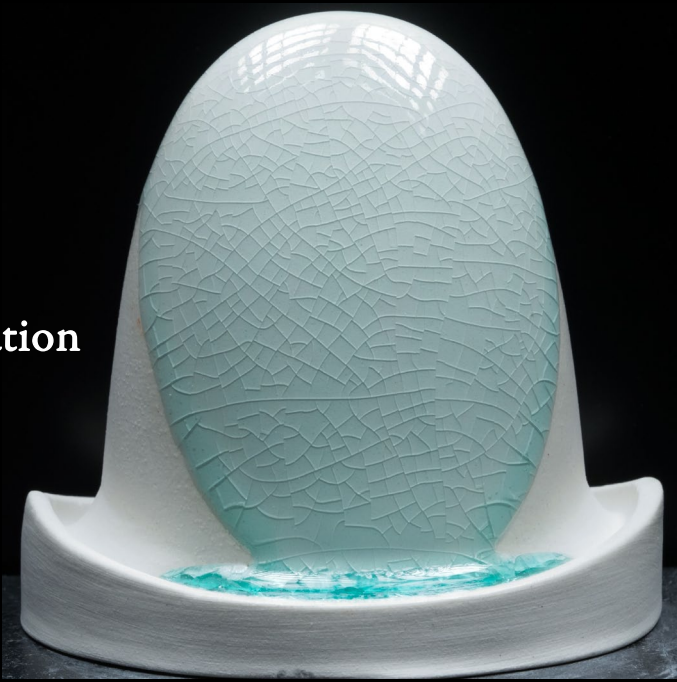
Weight Substitution  
Spodumene

070722-12

|                  |       |
|------------------|-------|
| Spodumene        | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 70    |



1-3 Second Dip



2-3 Second Dips

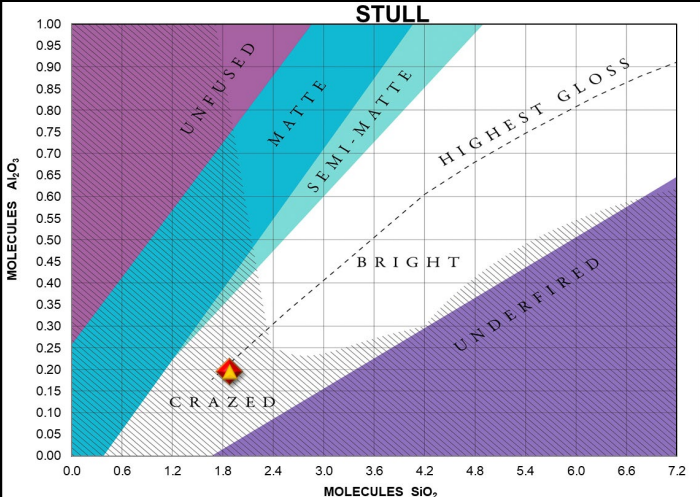


Reduction



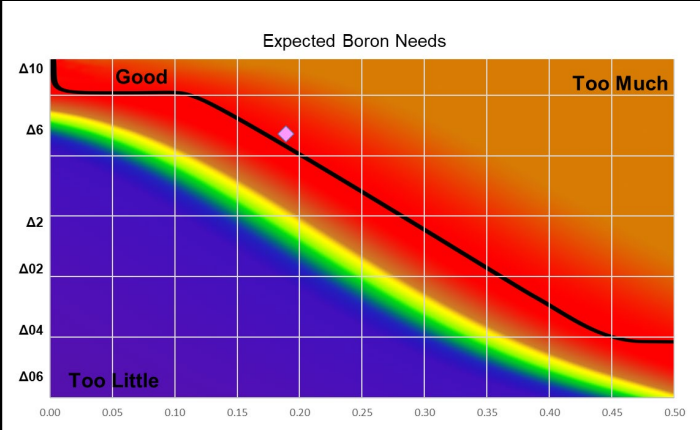
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>9.60 : 1 |                                                      | Alkali Metals<br>0.25                  |                          | Alkaline Earths<br>0.75  |             |
|--------------------------------------------------------------------|------------------------------------------------------|----------------------------------------|--------------------------|--------------------------|-------------|
| SiO <sub>2</sub><br>1.90                                           | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.20 | Na <sub>2</sub> O<br>0.11              | K <sub>2</sub> O<br>0.00 | MgO<br>0.25              | CaO<br>0.50 |
| B <sub>2</sub> O <sub>3</sub><br>0.19                              | Al <sub>2</sub> O <sub>3</sub><br>0.20               | Li <sub>2</sub> O<br>0.14              | CuO<br>0.00              | SrO<br>0.00              | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                           | NiO<br>0.00                                          | Bi <sub>2</sub> O <sub>3</sub><br>0.00 | SnO <sub>2</sub><br>0.00 | ZnO<br>0.00              | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub><br>0.00                             | ZrO <sub>2</sub><br>0.00                             | P <sub>2</sub> O <sub>5</sub><br>0.00  |                          | MnO <sub>2</sub><br>0.00 | CoO<br>0.00 |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>9.60 : 1 |                                                      | Alkali Metals<br>0.26                  |                          | Alkaline Earths<br>0.74  |             |
|--------------------------------------------------------------------|------------------------------------------------------|----------------------------------------|--------------------------|--------------------------|-------------|
| SiO <sub>2</sub><br>1.88                                           | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.20 | Na <sub>2</sub> O<br>0.11              | K <sub>2</sub> O<br>0.00 | MgO<br>0.24              | CaO<br>0.50 |
| B <sub>2</sub> O <sub>3</sub><br>0.19                              | Al <sub>2</sub> O <sub>3</sub><br>0.20               | Li <sub>2</sub> O<br>0.14              | CuO<br>0.01              | SrO<br>0.00              | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                           | NiO<br>0.00                                          | Bi <sub>2</sub> O <sub>3</sub><br>0.00 | SnO <sub>2</sub><br>0.00 | ZnO<br>0.00              | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub><br>0.00                             | ZrO <sub>2</sub><br>0.00                             | P <sub>2</sub> O <sub>5</sub><br>0.00  |                          | MnO <sub>2</sub><br>0.00 | CoO<br>0.00 |



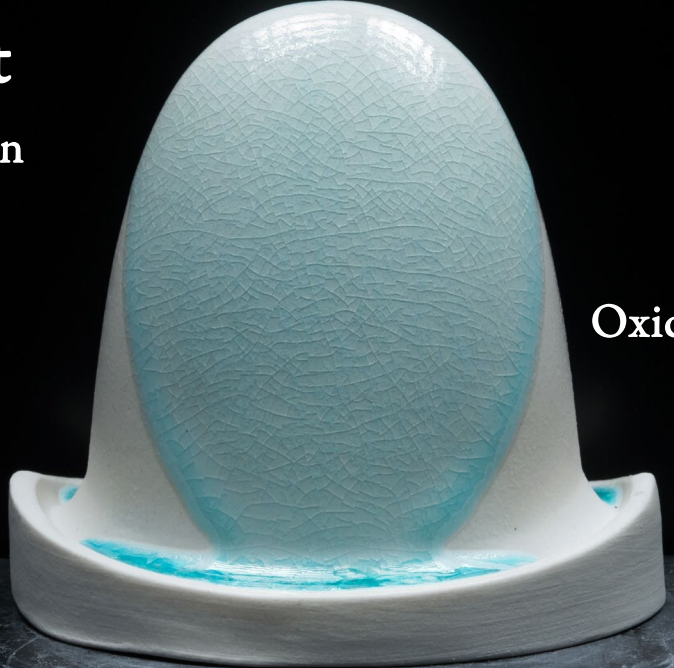
Ceramic  
Materials  
Workshop

# Birdie's Nest

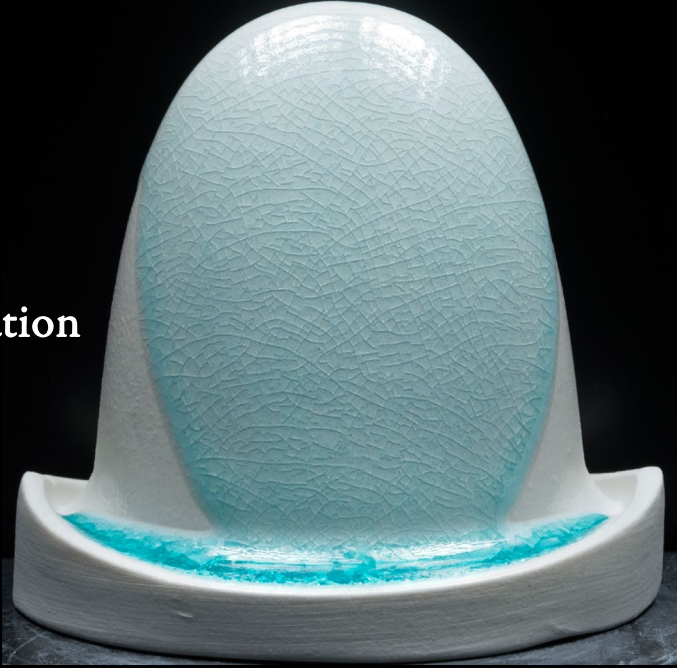
Weight Substitution  
Frit 3110

070722-14

|                  |       |
|------------------|-------|
| 3110             | 24.24 |
| Dolomite         | 20.18 |
| EPK              | 5.89  |
| Flint            | 17.75 |
| 3134             | 29.44 |
| Bentonite        | 2.00  |
| Copper Carbonate | 0.50  |
| Water            | 60    |



1-3 Second Dip



2-3 Second Dips

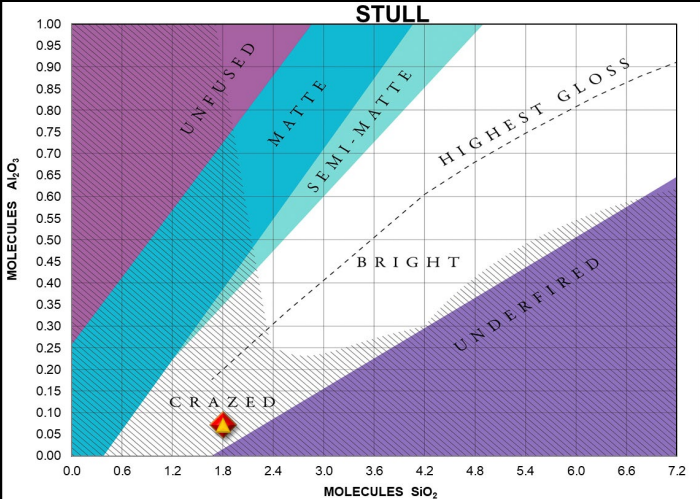


Reduction

Oxidation

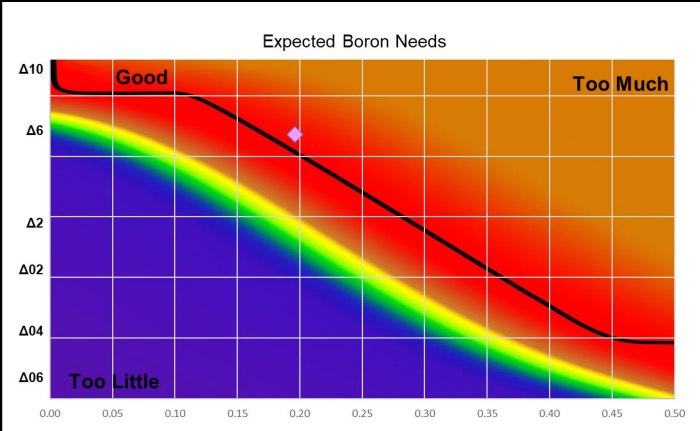
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>24.95 : 1 |                                                      | Alkali Metals<br>0.24          |                          | Alkaline Earths<br>0.76 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.82                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.07 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.01 | MgO<br>0.23             | CaO<br>0.52 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.07               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>24.95 : 1 |                                                      | Alkali Metals<br>0.25          |                          | Alkaline Earths<br>0.75 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.80                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.07 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.01 | MgO<br>0.23             | CaO<br>0.52 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.07               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



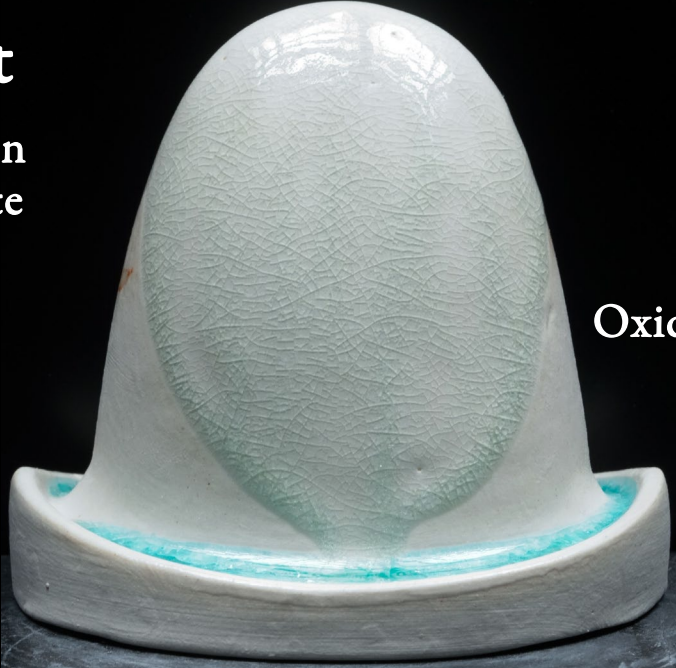
Ceramic  
Materials  
Workshop

# Birdie's Nest

Weight Substitution  
Lithium Carbonate

070722-15

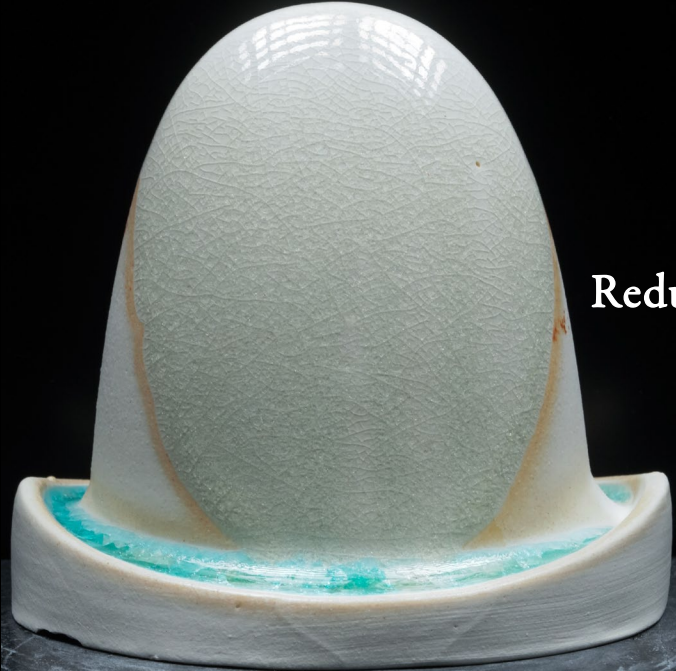
|                  |       |
|------------------|-------|
| Lithium Carb     | 24.36 |
| Dolomite         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 70    |



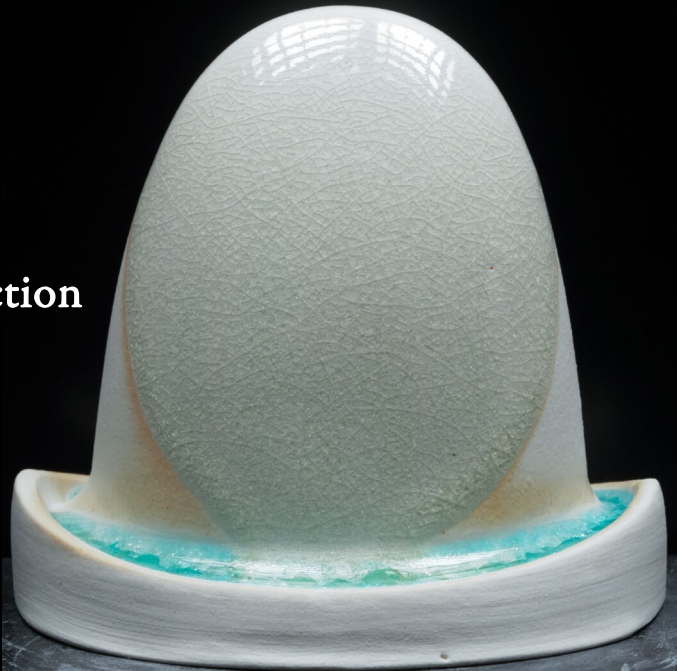
1-3 Second Dip



2-3 Second Dips



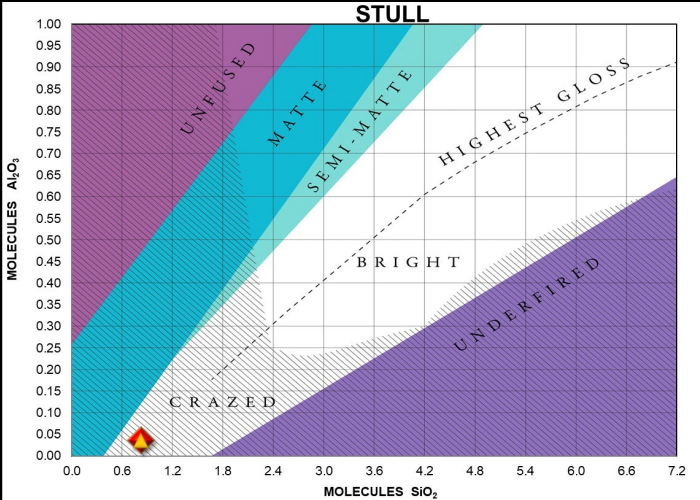
Reduction



Oxidation

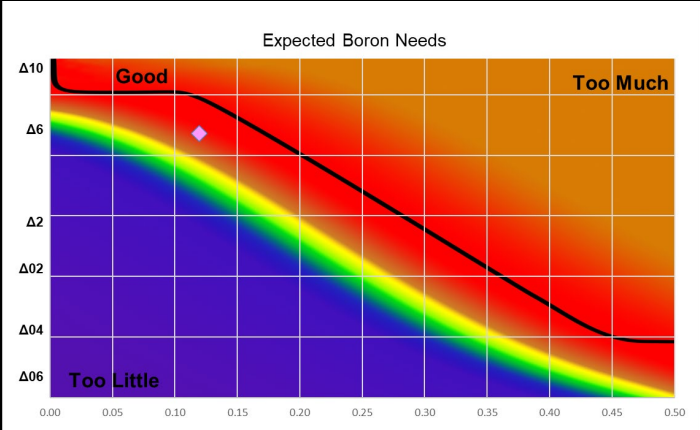
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>23.08 : 1 |                                                      | Alkali Metals<br>0.53                  |                          | Alkaline Earths<br>0.47  |             |
|---------------------------------------------------------------------|------------------------------------------------------|----------------------------------------|--------------------------|--------------------------|-------------|
| SiO <sub>2</sub><br>0.83                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.04 | Na <sub>2</sub> O<br>0.07              | K <sub>2</sub> O<br>0.00 | MgO<br>0.16              | CaO<br>0.31 |
| B <sub>2</sub> O <sub>3</sub><br>0.12                               | Al <sub>2</sub> O <sub>3</sub><br>0.04               | Li <sub>2</sub> O<br>0.46              | CuO<br>0.00              | SrO<br>0.00              | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                            | NiO<br>0.00                                          | Bi <sub>2</sub> O <sub>3</sub><br>0.00 | SnO <sub>2</sub><br>0.00 | ZnO<br>0.00              | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub><br>0.00                              | ZrO <sub>2</sub><br>0.00                             | P <sub>2</sub> O <sub>5</sub><br>0.00  |                          | MnO <sub>2</sub><br>0.00 | CoO<br>0.00 |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>23.08 : 1 |                                                      | Alkali Metals<br>0.53                  |                          | Alkaline Earths<br>0.47  |             |
|---------------------------------------------------------------------|------------------------------------------------------|----------------------------------------|--------------------------|--------------------------|-------------|
| SiO <sub>2</sub><br>0.83                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.04 | Na <sub>2</sub> O<br>0.07              | K <sub>2</sub> O<br>0.00 | MgO<br>0.15              | CaO<br>0.31 |
| B <sub>2</sub> O <sub>3</sub><br>0.12                               | Al <sub>2</sub> O <sub>3</sub><br>0.04               | Li <sub>2</sub> O<br>0.46              | CuO<br>0.01              | SrO<br>0.00              | BaO<br>0.00 |
| TiO <sub>2</sub><br>0.00                                            | NiO<br>0.00                                          | Bi <sub>2</sub> O <sub>3</sub><br>0.00 | SnO <sub>2</sub><br>0.00 | ZnO<br>0.00              | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub><br>0.00                              | ZrO <sub>2</sub><br>0.00                             | P <sub>2</sub> O <sub>5</sub><br>0.00  |                          | MnO <sub>2</sub><br>0.00 | CoO<br>0.00 |



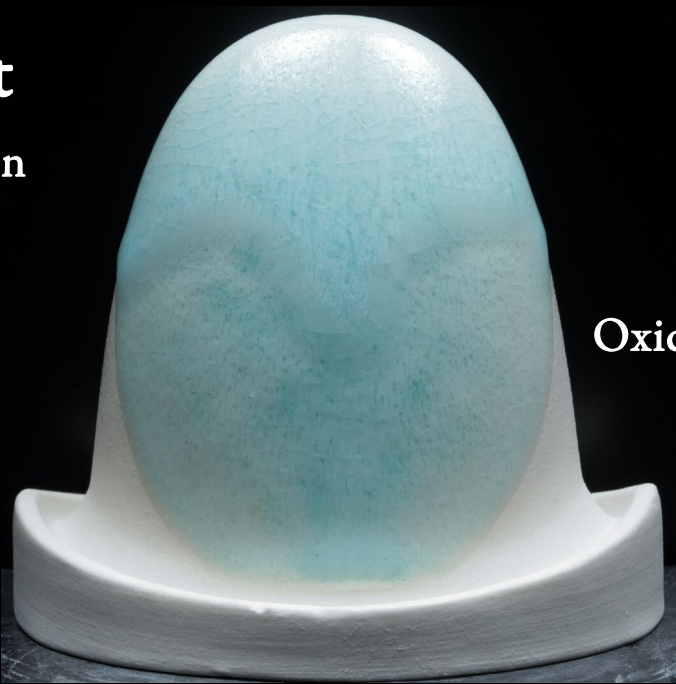
Ceramic  
Materials  
Workshop

# Birdie's Nest

Weight Substitution  
Talc

070722-16

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Talc             | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 80    |



1-3 Second Dip



2-3 Second Dips

Oxidation

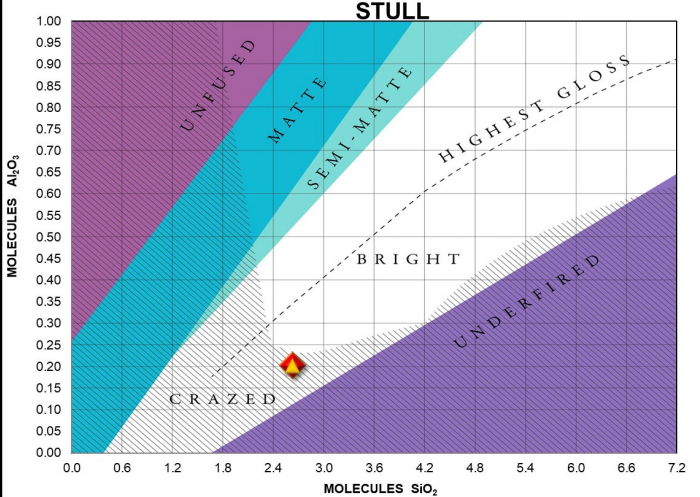


Reduction



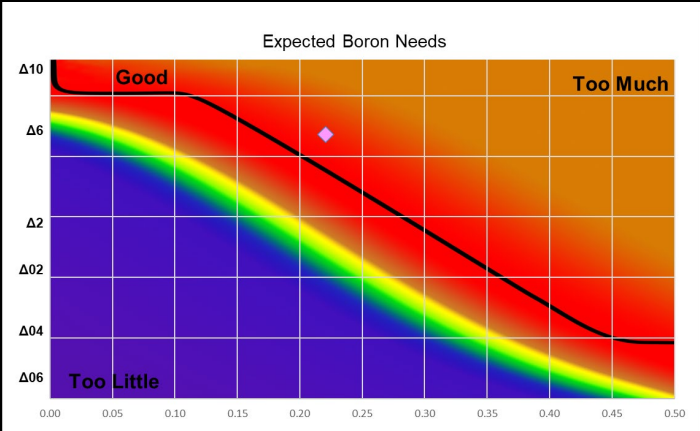
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.96 : 1 |                                                      | Alkali Metals<br>0.27          |                          | Alkaline Earths<br>0.73 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.66                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.20 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.03 | MgO<br>0.39             | CaO<br>0.34 |
| B <sub>2</sub> O <sub>3</sub><br>0.22                               | Al <sub>2</sub> O <sub>3</sub><br>0.20               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.96 : 1 |                                                      | Alkali Metals<br>0.27          |                          | Alkaline Earths<br>0.73 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.63                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.20 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.03 | MgO<br>0.38             | CaO<br>0.33 |
| B <sub>2</sub> O <sub>3</sub><br>0.22                               | Al <sub>2</sub> O <sub>3</sub><br>0.20               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



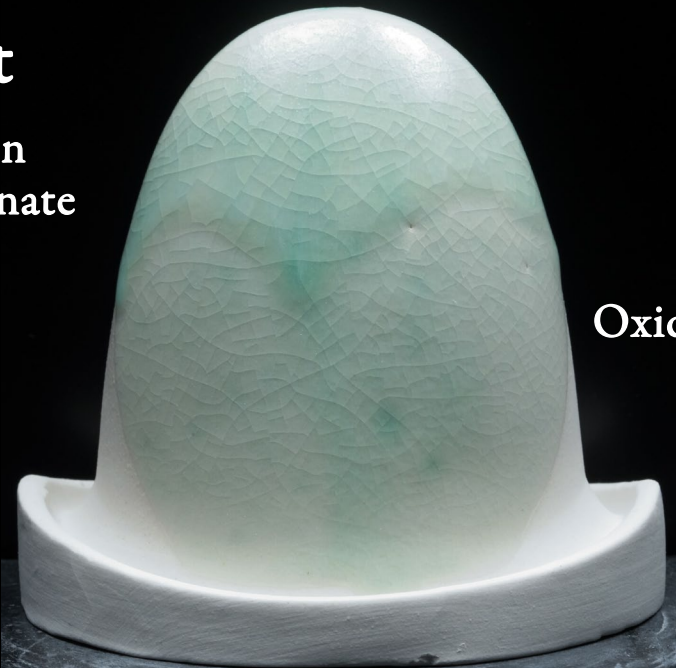
Ceramic  
Materials  
Workshop

# Birdie's Nest

Weight Substitution  
Magnesium Carbonate

070722-17

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Mag Carbonate    | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 160   |



1-3 Second Dip



2-3 Second Dips



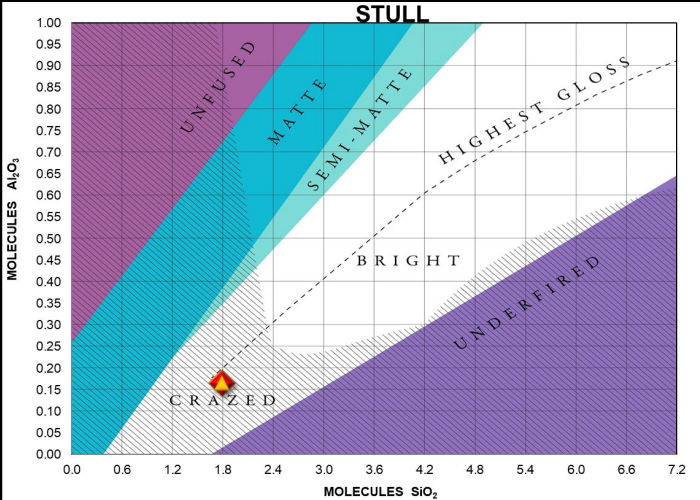
Reduction



Oxidation

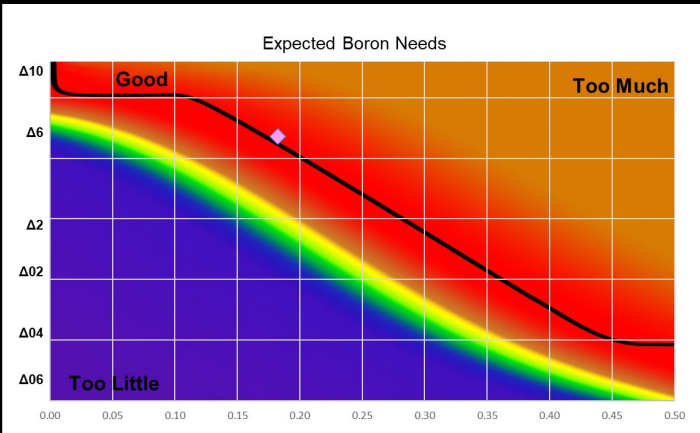
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.75 : 1 |                                                      | Alkali Metals<br>0.22          |                          | Alkaline Earths<br>0.78 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.81                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.17 | Na <sub>2</sub> O<br>0.19      | K <sub>2</sub> O<br>0.02 | MgO<br>0.53             | CaO<br>0.25 |
| B <sub>2</sub> O <sub>3</sub><br>0.18                               | Al <sub>2</sub> O <sub>3</sub><br>0.17               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.75 : 1 |                                                      | Alkali Metals<br>0.22          |                          | Alkaline Earths<br>0.78 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.79                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.17 | Na <sub>2</sub> O<br>0.19      | K <sub>2</sub> O<br>0.02 | MgO<br>0.52             | CaO<br>0.25 |
| B <sub>2</sub> O <sub>3</sub><br>0.18                               | Al <sub>2</sub> O <sub>3</sub><br>0.17               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



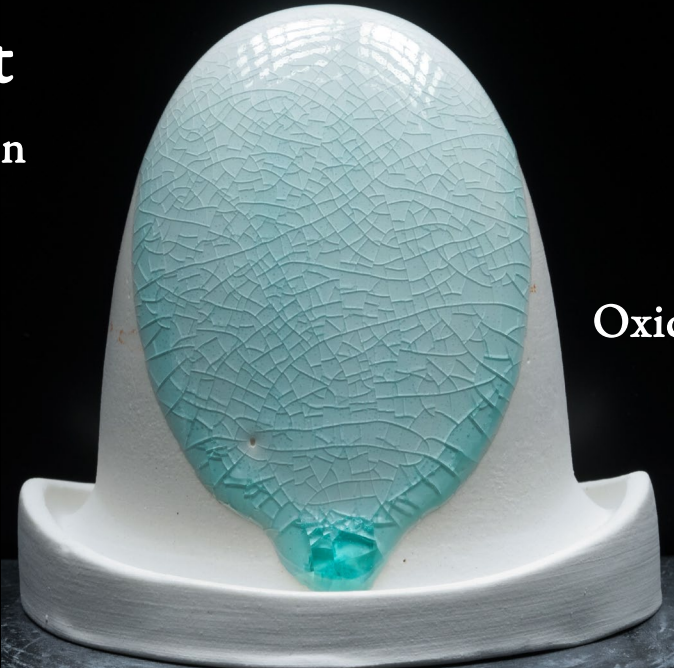
Ceramic  
Materials  
Workshop

# Birdie's Nest

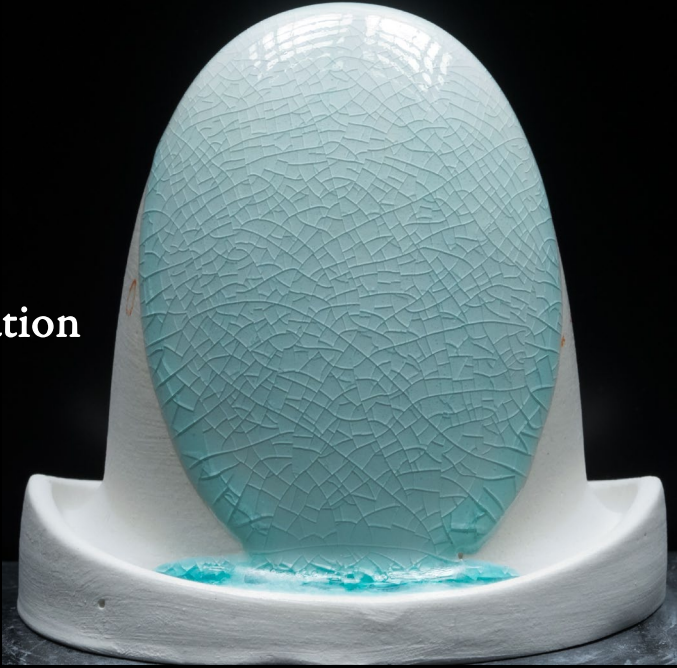
Weight Substitution  
Whiting

070722-18

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Whiting          | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 70    |



1-3 Second Dip

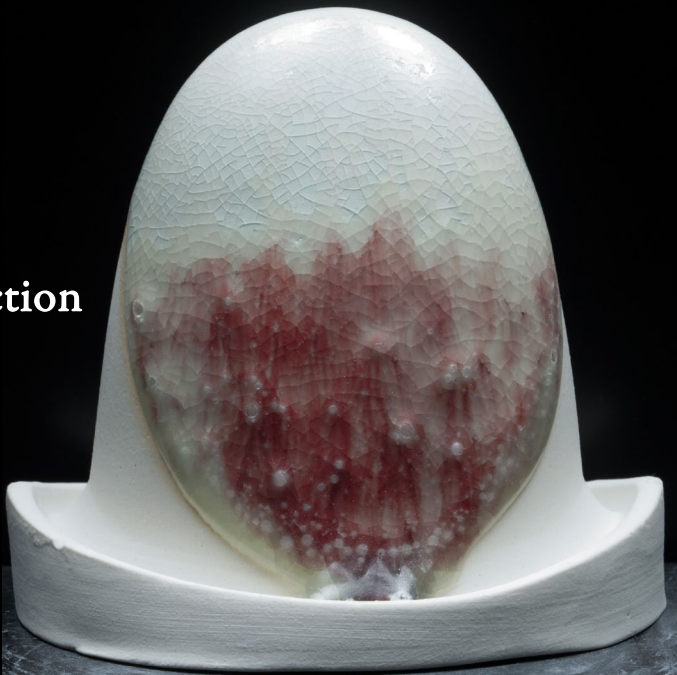


2-3 Second Dips

Oxidation



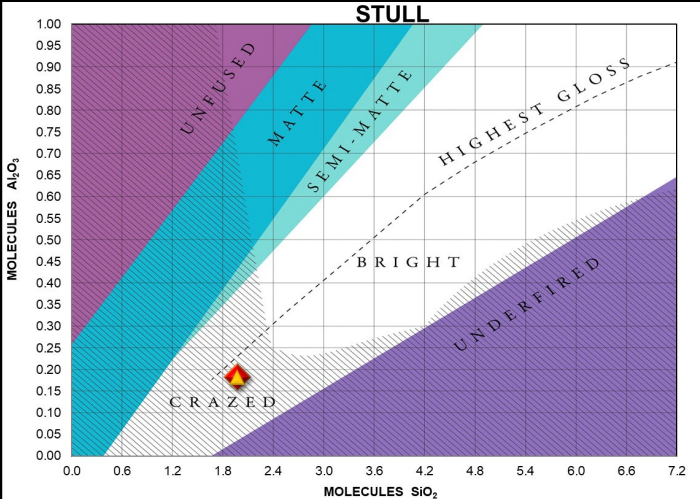
Reduction



ceramicmaterialsworkshop.com

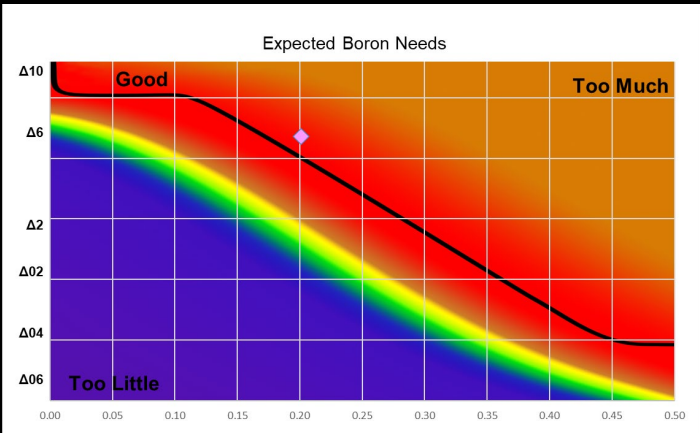
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.24          |                          | Alkaline Earths<br>0.76 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.99                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.21      | K <sub>2</sub> O<br>0.03 | MgO<br>0.00             | CaO<br>0.75 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.25          |                          | Alkaline Earths<br>0.75 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.97                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.18 | Na <sub>2</sub> O<br>0.21      | K <sub>2</sub> O<br>0.03 | MgO<br>0.00             | CaO<br>0.75 |
| B <sub>2</sub> O <sub>3</sub><br>0.20                               | Al <sub>2</sub> O <sub>3</sub><br>0.18               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



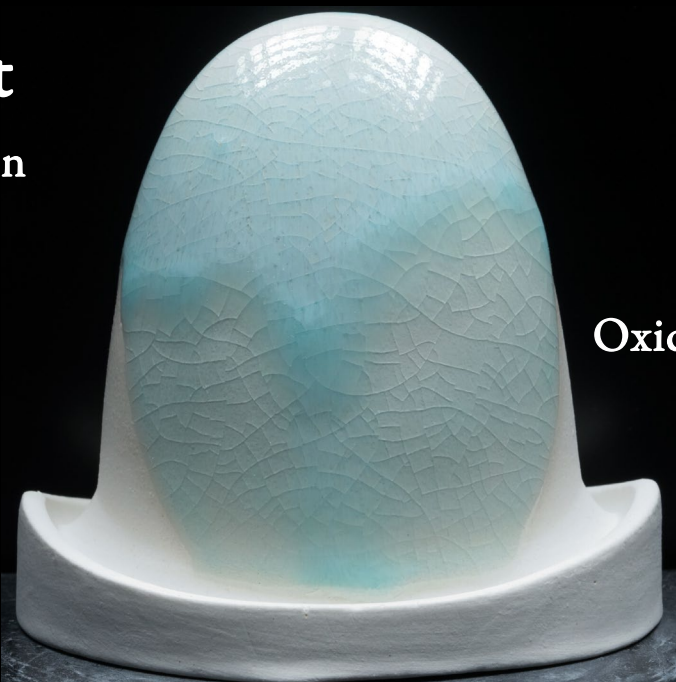
Ceramic  
Materials  
Workshop

# Birdie's Nest

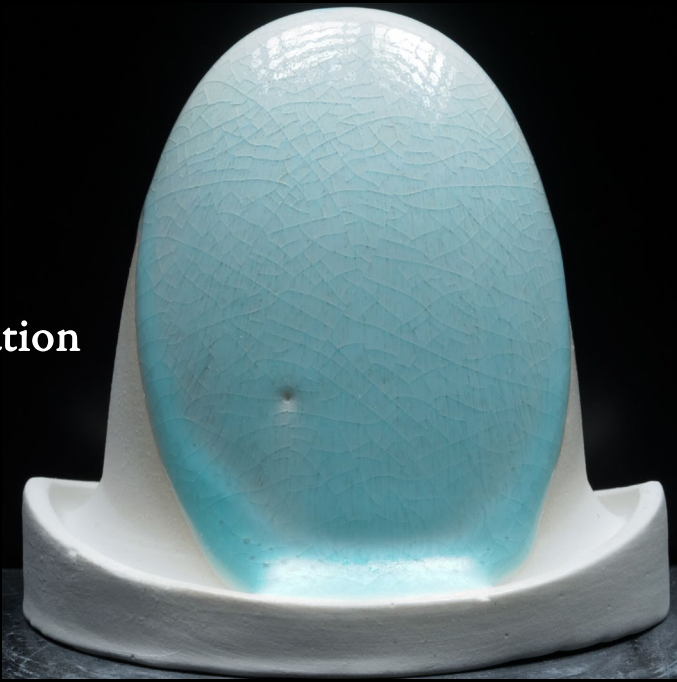
Weight Substitution  
Wollastonite

070722-19

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Wollastonite     | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 80    |



1-3 Second Dip



2-3 Second Dips

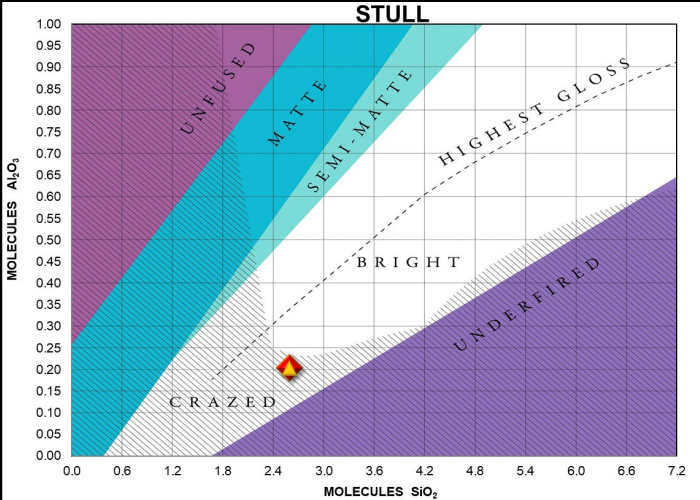


Reduction



UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.68 : 1 |                                                      | Alkali Metals<br>0.26          |                          | Alkaline Earths<br>0.74 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.62                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.21 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.03 | MgO<br>0.02             | CaO<br>0.71 |
| B <sub>2</sub> O <sub>3</sub><br>0.22                               | Al <sub>2</sub> O <sub>3</sub><br>0.21               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>12.68 : 1 |                                                      | Alkali Metals<br>0.27          |                          | Alkaline Earths<br>0.73 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.59                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.20 | Na <sub>2</sub> O<br>0.23      | K <sub>2</sub> O<br>0.03 | MgO<br>0.02             | CaO<br>0.70 |
| B <sub>2</sub> O <sub>3</sub><br>0.22                               | Al <sub>2</sub> O <sub>3</sub><br>0.20               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.01 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



Ceramic  
Materials  
Workshop

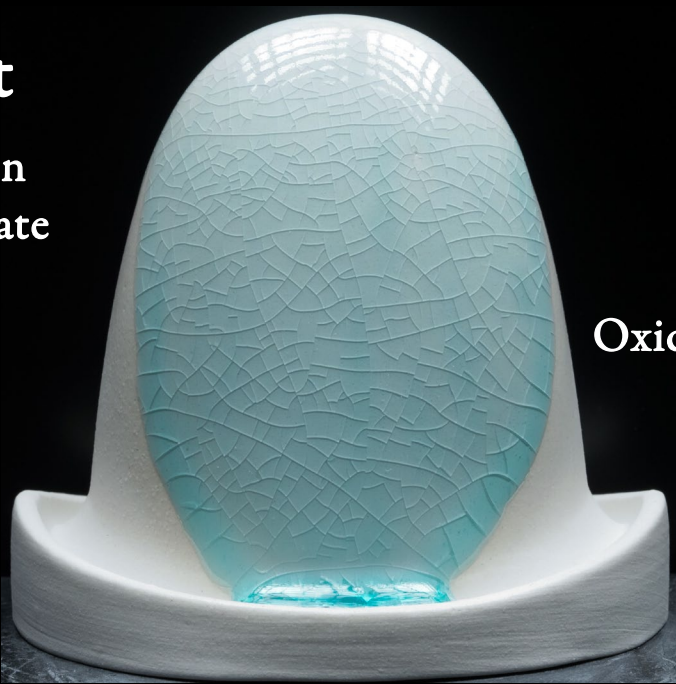
# Birdie's Nest

## Weight Substitution

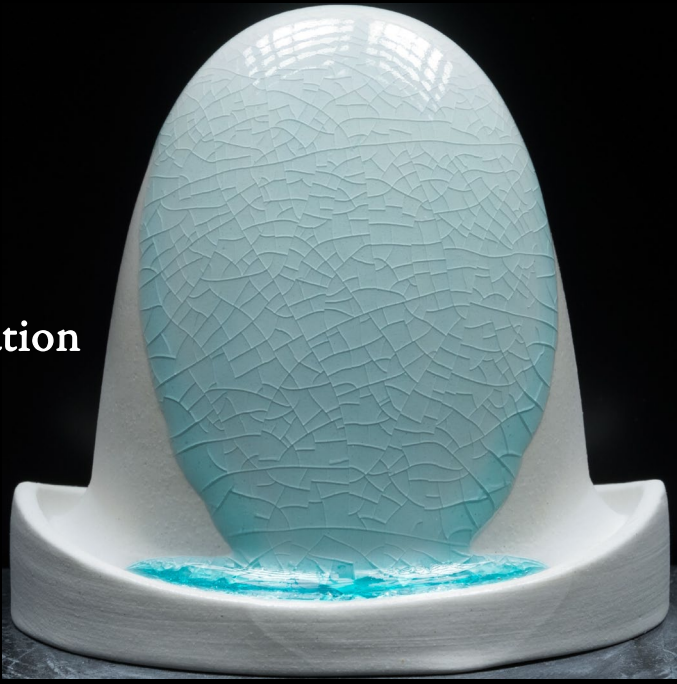
### Strontium Carbonate

070722-20

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Strontium Carb   | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 70    |



1-3 Second Dip



2-3 Second Dips

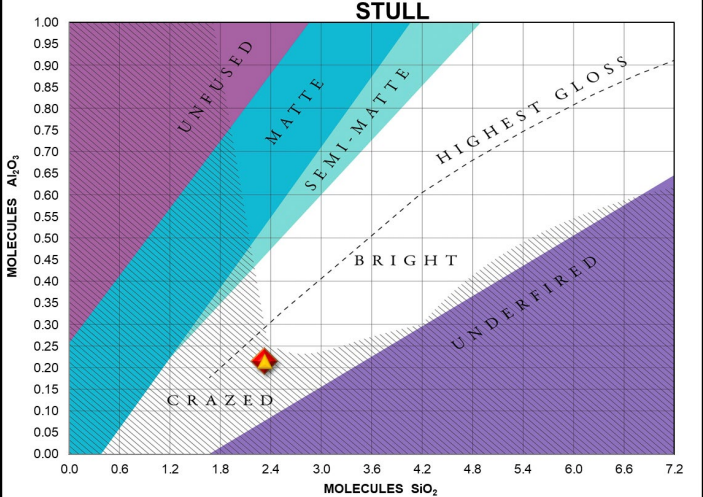


Reduction



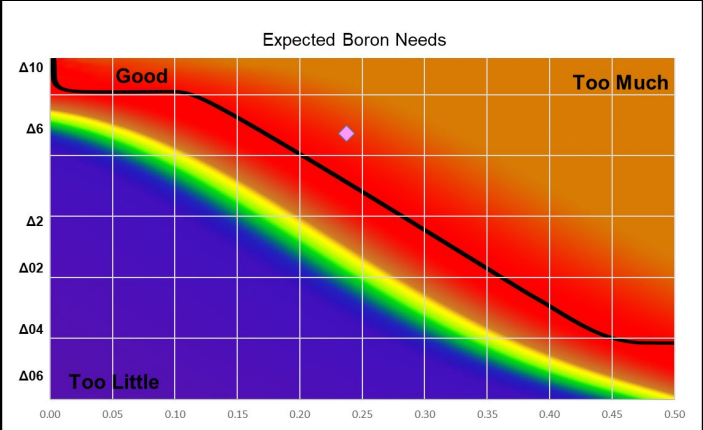
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.28          |                          | Alkaline Earths<br>0.72 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.35                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.22 | Na <sub>2</sub> O<br>0.25      | K <sub>2</sub> O<br>0.03 | MgO<br>0.00             | CaO<br>0.33 |
| B <sub>2</sub> O <sub>3</sub><br>0.24                               | Al <sub>2</sub> O <sub>3</sub><br>0.22               | Li <sub>2</sub> O              | CuO                      | SrO<br>0.38             | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

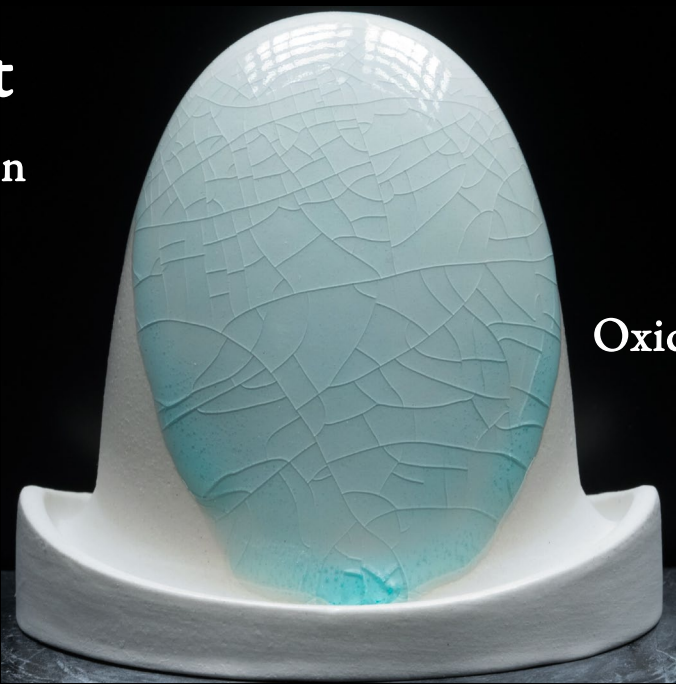
| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.29          |                          | Alkaline Earths<br>0.71 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.33                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.22 | Na <sub>2</sub> O<br>0.25      | K <sub>2</sub> O<br>0.03 | MgO<br>0.00             | CaO<br>0.32 |
| B <sub>2</sub> O <sub>3</sub><br>0.24                               | Al <sub>2</sub> O <sub>3</sub><br>0.21               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO<br>0.38             | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



# Birdie's Nest

Weight Substitution  
Barium Carbonate  
070722-21

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Barium Carb      | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 80    |



1-3 Second Dip



2-3 Second Dips

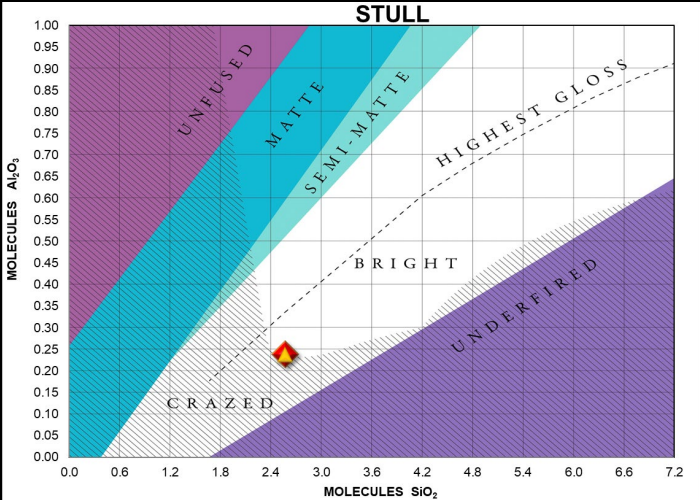


Reduction



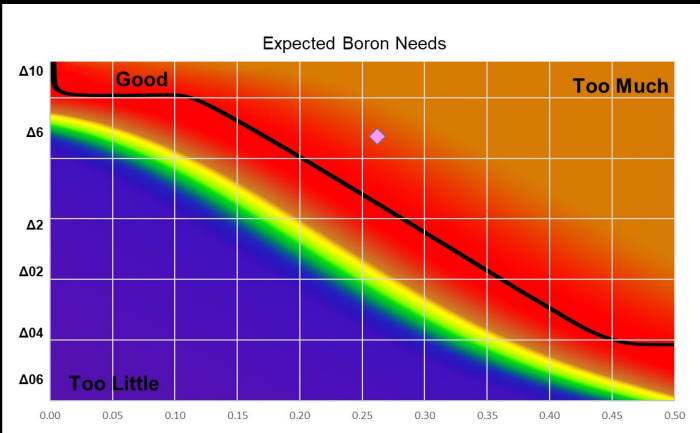
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.31          |                          | Alkaline Earths<br>0.69 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.60                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.24 | Na <sub>2</sub> O<br>0.28      | K <sub>2</sub> O<br>0.04 | MgO<br>0.00             | CaO<br>0.36 |
| B <sub>2</sub> O <sub>3</sub><br>0.27                               | Al <sub>2</sub> O <sub>3</sub><br>0.24               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO<br>0.32 |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



EUMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.32          |                          | Alkaline Earths<br>0.68 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.57                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.24 | Na <sub>2</sub> O<br>0.28      | K <sub>2</sub> O<br>0.04 | MgO<br>0.00             | CaO<br>0.36 |
| B <sub>2</sub> O <sub>3</sub><br>0.26                               | Al <sub>2</sub> O <sub>3</sub><br>0.24               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO<br>0.31 |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |

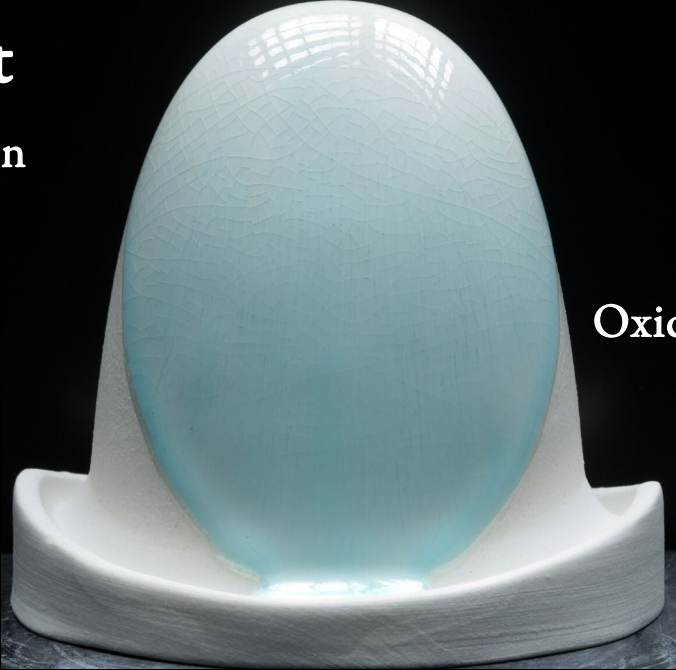


Ceramic  
Materials  
Workshop

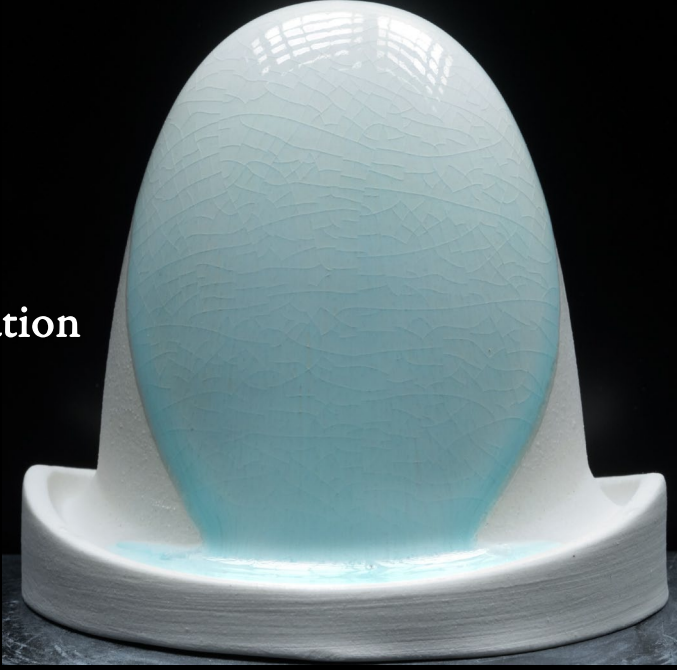
# Birdie's Nest

Weight Substitution  
Zinc Oxide  
070722-22

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Zinc Oxide       | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 80    |



1-3 Second Dip



2-3 Second Dips



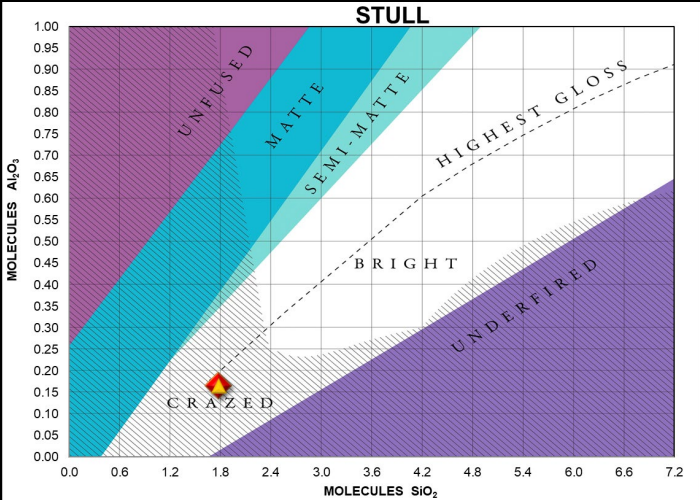
Reduction



Oxidation

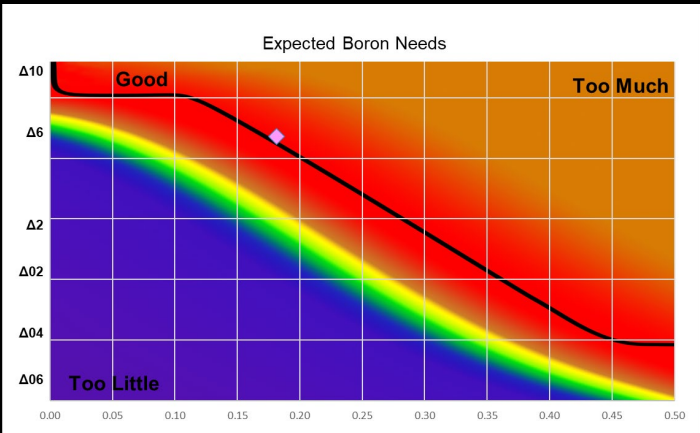
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.22          |                          | Alkaline Earths<br>0.78 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.80                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.17 | Na <sub>2</sub> O<br>0.19      | K <sub>2</sub> O<br>0.02 | MgO<br>0.00             | CaO<br>0.25 |
| B <sub>2</sub> O <sub>3</sub><br>0.18                               | Al <sub>2</sub> O <sub>3</sub><br>0.17               | Li <sub>2</sub> O              | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO<br>0.53             | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



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| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.78 : 1 |                                                      | Alkali Metals<br>0.22          |                          | Alkaline Earths<br>0.78 |             |
|---------------------------------------------------------------------|------------------------------------------------------|--------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>1.78                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.17 | Na <sub>2</sub> O<br>0.19      | K <sub>2</sub> O<br>0.02 | MgO<br>0.00             | CaO<br>0.25 |
| B <sub>2</sub> O <sub>3</sub><br>0.18                               | Al <sub>2</sub> O <sub>3</sub><br>0.16               | Li <sub>2</sub> O              | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub> | SnO <sub>2</sub>         | ZnO<br>0.52             | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub>  |                          | MnO <sub>2</sub>        | CoO         |



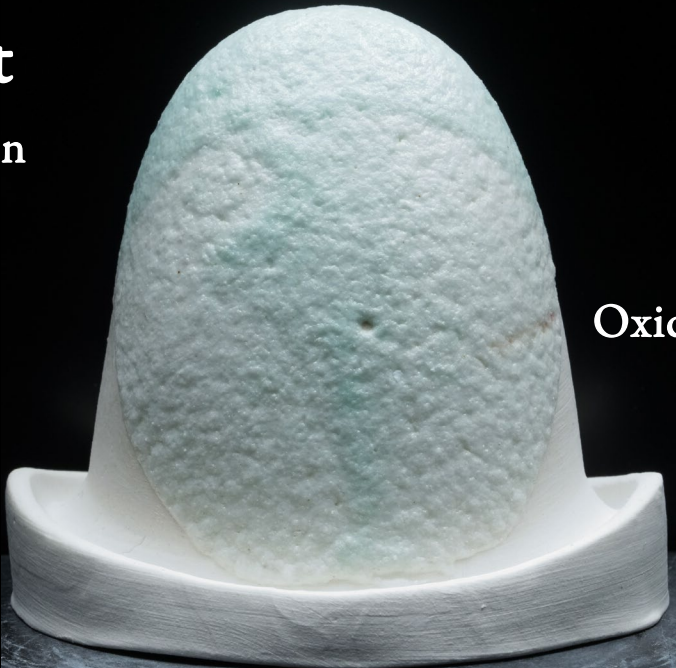
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# Birdie's Nest

Weight Substitution  
Bone Ash

070722-23

|                  |       |
|------------------|-------|
| Neph Sy          | 24.36 |
| Bone Ash         | 20.28 |
| EPK              | 5.92  |
| Flint            | 17.84 |
| 3134             | 29.59 |
| Bentonite        | 2.01  |
| Copper Carbonate | 0.50  |
| Water            | 80    |



1-3 Second Dip



2-3 Second Dips

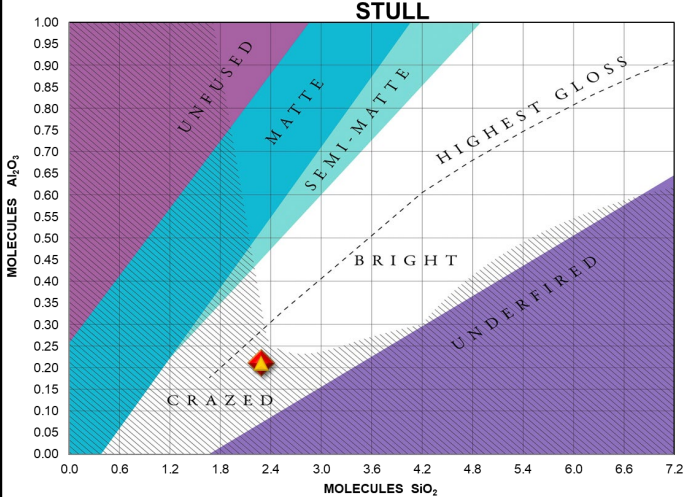


Reduction



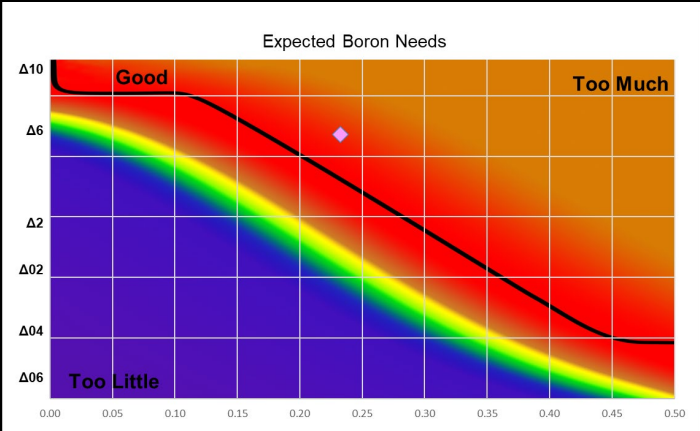
UMF

| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.79 : 1 |                                                      | Alkali Metals<br>0.28                 |                          | Alkaline Earths<br>0.72 |             |
|---------------------------------------------------------------------|------------------------------------------------------|---------------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.31                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.21 | Na <sub>2</sub> O<br>0.25             | K <sub>2</sub> O<br>0.03 | MgO<br>0.01             | CaO<br>0.71 |
| B <sub>2</sub> O <sub>3</sub><br>0.23                               | Al <sub>2</sub> O <sub>3</sub><br>0.21               | Li <sub>2</sub> O                     | CuO                      | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub>        | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub><br>0.22 |                          | MnO <sub>2</sub>        | CoO         |



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| SiO <sub>2</sub> :Al <sub>2</sub> O <sub>3</sub> Ratio<br>10.79 : 1 |                                                      | Alkali Metals<br>0.29                 |                          | Alkaline Earths<br>0.71 |             |
|---------------------------------------------------------------------|------------------------------------------------------|---------------------------------------|--------------------------|-------------------------|-------------|
| SiO <sub>2</sub><br>2.28                                            | Collective "Al <sub>2</sub> O <sub>3</sub> "<br>0.21 | Na <sub>2</sub> O<br>0.24             | K <sub>2</sub> O<br>0.03 | MgO<br>0.01             | CaO<br>0.70 |
| B <sub>2</sub> O <sub>3</sub><br>0.23                               | Al <sub>2</sub> O <sub>3</sub><br>0.21               | Li <sub>2</sub> O                     | CuO<br>0.01              | SrO                     | BaO         |
| TiO <sub>2</sub><br>0.00                                            | NiO                                                  | Bi <sub>2</sub> O <sub>3</sub>        | SnO <sub>2</sub>         | ZnO                     | FeO<br>0.00 |
| Cr <sub>2</sub> O <sub>3</sub>                                      | ZrO <sub>2</sub>                                     | P <sub>2</sub> O <sub>5</sub><br>0.21 |                          | MnO <sub>2</sub>        | CoO         |



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