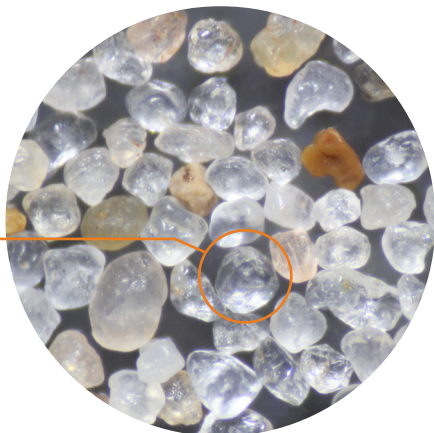


COLOR VARIATION IN QUARTZ

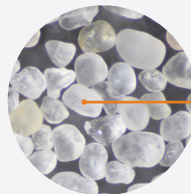
PURE QUARTZ IS COLORLESS AND CLEAR. QUARTZ OF COLOR IS VERY COMMON.

Color in quartz can be attributed to benign, trace occurrences of elemental impurities within the crystalline structure often introduced during geologic formation. Chemical weathering and the presence of iron oxides may lend coloring to quartz as well. Finally, depositional history and provenance play a contributing role to the color variations we see in quartz sand.



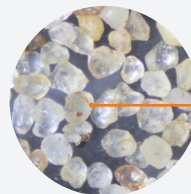
PURE QUARTZ

QUARTZ OF COLOR EXAMPLES:



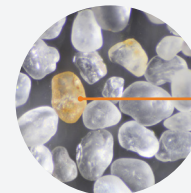
WHITE

Quartz may appear cloudy or opaque white versus clear due to microscopic fluid inclusions within the crystalline structure.



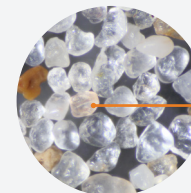
BROWN, YELLOW, ORANGE, RED

Trace presence of iron or iron oxides.



TRANSLUCENT AMBER, BROWN TO DARK GRAY

Can be attributed to irradiation during formation and/or trace presence of aluminum.



PALE PINK TO RED

Trace presence titanium, iron or manganese.