

OPAL



Hydrated Silica

Opal is a precipitated mineral, and is formed only under specific conditions. Chemical weathering causes the breakdown of Silicon Dioxide rich sediments. The resulting Silica is then dissolved into downward seeping groundwater. The groundwater, now rich in Silica descends through the sediments until it reaches an impermeable layer, where it accumulates in cracks and crevices. As the supply of groundwater is cut off, the Silica rich liquid slowly dries out into a Silica gel, which is composed of sub-microscopic spheres of Silica, with minute amounts of water trapped between the spheres. Further drying solidifies the gel, and depending on the constancy of the process, differing grades of Opal are formed. The finest grades, such as Fire Opal, are formed when the process has been absolutely constant, and the spheres are all the same size. This imparts a refractive index to the Opal, which reflects the light in a manner that makes it so sought after by prospectors.

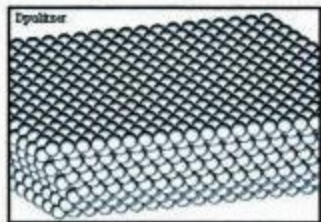
THERE ARE SEVERAL VARIETIES OF OPAL, EACH WITH IT'S OWN PARTICULAR CHARACTERISTICS, SOME OF WHICH ARE LISTED HERE.

Precious Opal -- A particularly luminescent variety, usually brilliant hues of green and blue.

Fire Opal-----Transparent to translucent, colour from hyacinth to flame red.

Milk Opal-----Characteristically milk white with a vitreous lustre, and translucent.

Wood Opal-----So called because Silica gel has replaced the original wood and preserved it's character in perfect detail.



○ Diameter = 150 - 300 nm.