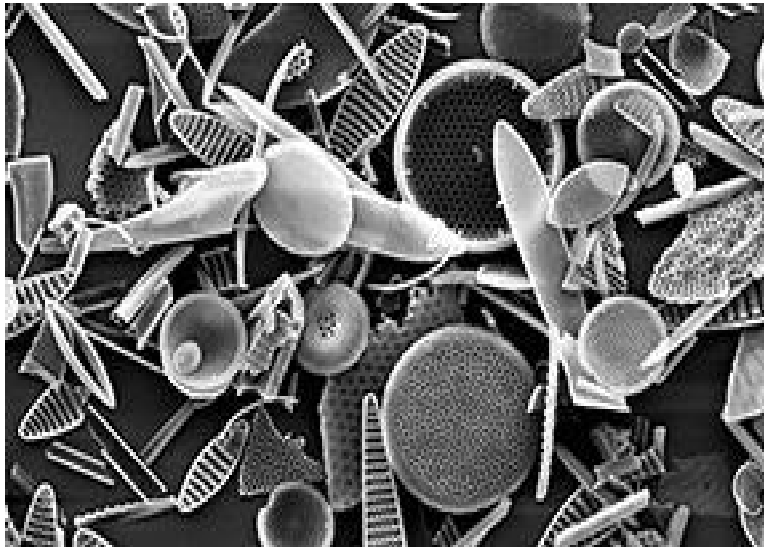


Diatomite



Diatomite as Mined
Fernley, Lyon Co., Nevada



SEM Photo of Diatoms
(Field of View $\approx 100\mu$) (0.1 mm or 0.004 inches)



Cleaned Diatoms on Microscope Slide
Many Locations from Both Freshwater and Saltwater



Fish Fossils in Diatomite
Fernley, Lyon Co., Nevada

Rock Classification:

Sedimentary

Siliceous Sedimentary Rock

Description:

Diatomite is the nearly pure sedimentary accumulation of the microscopic skeletons (frustules) of unicellular aquatic algae. The sediments are fine-grained, highly siliceous, and consist primarily of amorphous opaline silica. Diatomite looks a like chalk powder that you get off, old time, chalk black boards.

Commercially diatomite is usually called Diatomaceous Earth.

Relation to Mining:

Throughout most of the world, the lower cost of and higher recovery from open-pit quarrying relative to underground mining encourages operators to use surface mining methods. Notable exceptions are underground mines in Europe, South America, and Asia, and the dredging operation at Lake Myvatn, Iceland.

Since diatomite is soft no blasting of the diatomite is needed in open-pit mining. Also, it is moderately easy to remove the material that doesn't contain the high purity diatomite and transferring it to the waste area. The equipment that is used is mostly dozers, and loaders and then taken to the processing plant. If the moisture content is high and the weather is favorable the diatomite is spread-out on the ground to partially dry before placing it in to the drying ovens. The pre-drying saves a large amount of money for the drying process.

SEM Scanning Electron Microscope Photo (Photo above)

A great location for fossil fish in diatomite is Fernley, Nevada (Photo above)

Uses:

Because of its porosity, diatomite has been used extensively as a filter for a variety of purposes. It is used to filter impurities out of everything from beer and wine. Similarly, diatomite is used to filter impurities from drinking water in public water systems; the diatomite removes bacteria and protozoa.

It is also used the filter swimming pool water to remove bacteria and oil that is from peoples bodies.

The oldest use of diatomite was as a very mild abrasive and for this purpose it has been used in toothpaste and metal polishes.

It is also used in paper, paint, brick, tile, ceramics, plastics, soaps, detergents and other products as a filling material. The filler is a substance that increases the volume of a product and/or fills in space.

Diatomite has also found value as an insulating material in high-temperature mechanisms like furnaces and boilers. It replaces asbestos that at one time was used as insulation in high temperature systems. It has also proven effective as a sound insulator.

Above information and photos may have come from Geology.com, Mineral Education Coalition.org, [Wikipedia](http://Wikipedia.org) or My Samples.