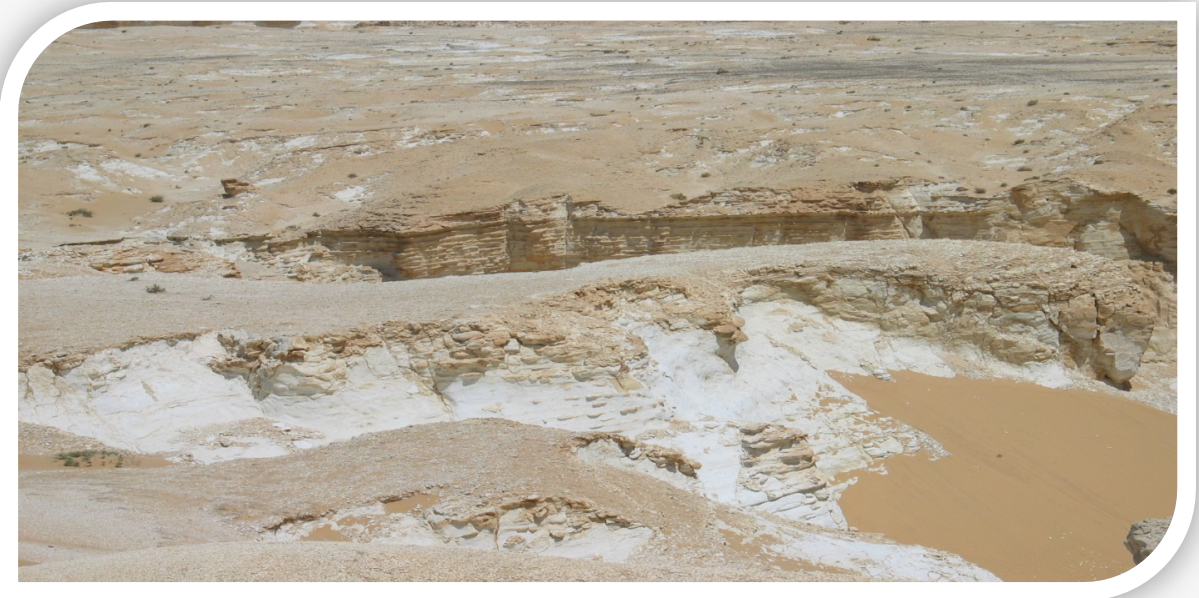




*Chalk*



## **Chalk**

Chalk is a soft, white, porous, sedimentary carbonate rock, a form of limestone composed of the mineral calcite. Calcite is an ionic salt called calcium carbonate or  $\text{CaCO}_3$ . It forms under reasonably deep marine conditions from the gradual accumulation of minute calcite shells (coccoliths).



### **Industrial Uses of Chalk**

Chalk as a form of carbonate rocks containing high calcium carbonate can be used in many industrial applications such as:

#### **Paint industry**

Chalk used as a filler used in the production of paints and emulsions.

#### **Paper industry**

Chalk as a source of calcium carbonate is widely used mineral in paper industry, it is valued worldwide for its high brightness and light scattering characteristics, and is used as an inexpensive filler.

#### **Livestock industry**

A significant part of chalk used in the livestock industry to feed with / farm animals and the preparation of animal feed.

## **Rubber industry**

As the amount of filler used in the rubber industry, chalk ranked first. This is due, on the one hand, purely economic considerations – are relatively large chalk value and opportunity without harm to rubber compounds to enter it in large numbers, on the other hand – the technical feasibility as chalk facilitates the process of manufacturing rubber products: accelerates the rubber vulcanization process, and It gives it a smooth surface.

## **Glass industry.**

Chalk among other carbonate rocks in the glass industry is used as a component of glass batch cooking introduced into the blend in powder form in quantities up to 30% of the final volume. It gives the thermal resistance of the glass, mechanical strength, resistance to chemicals and weathering.

## **Construction Materials**

One of the major consumers of chalk is the construction industry, where chalk is used for the production of cement, lime, various plastering and painting materials.

To use the chalk in the cement industry are no more restrictions in view of constant composition of chalk. Cement raw materials is regulated limit content: Magnesium oxide (not greater than 4%), sulfur trioxide (1.3%), the amount of alkali metal oxide, 1% of phosphoric anhydride.



## Chalk in Jordan

Chalk is a fine-grained white limestone or micrite. On average, it consists of calcium carbonate. Clay and quartz are the most common impurities. Most chalk is soft friable rock, easy to mine.

Chalk rocks in Jordan exposed over an area extend from east of Zarqa to the area of Al Azraq, Specifically in the areas of Al-Umary-Dahikiya, Wadi Al-Ghadaf, Qasr Al-Harrana, and Wadi Al-Dabi.



## Geological Setting

Chalk occurs in rocks at different stratigraphic levels and can be found throughout Jordan within the Muwaqger Chalk Marl Formation (Maastrichtian-Palaeocene) and Wadi Shallala Chalk Formation (Eocene). Wadi Shallala Formation is considered the most important resource of chalk due to the high thickness of chalk and broad distribution.

## Locations and Reserves

Area	Location	Reserve (mt)
Al-Umary-Dahikiya	45 km southeast of Al Azraq	1325
Wadi Al-Ghadaf	35 km south of A Azraq	161
Qasr Al-Harrana	50 km east of Amman	976
Wadi Al-Dabi	60 km east of Amman	3364



## Chemical and Physical Properties

Area	CaO %	Brightness %
Al-Umary-Dahikiya	38.9 - 49.6	74.8 - 81.7
Wadi Al-Ghadaf	43.6 - 52.6	79.5 - 81.4
Qasr Al-Harrana	47.9 - 52.6	76.6 - 83.5
Wadi Al-Dabi	51.6 - 53.2	76.6 - 85

## Mineralogical Properties

Calcite is the main mineral; other trace minerals are kaolinite, dolomite, quartz and halite.

## Investment Opportunities

The mineral is open for investment and mining / exploration companies are invited on the basis of detailed exploration, evaluation and exploitation.

Chalk deposits are soft to medium hard and exposed on the surface, almost without overburden, so it is easily removed by open – pit mining and without using explosives. The easy accessibility, close to the main roads, far from the towns and agriculture areas are advantages for the exploitation of chalk.

Chalk can be used in many industrial applications such as in cement industry, in agriculture and for producing lime which is used in many industries.

*Note: For More Information and inquiry can be contacted at the following address:*

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