

# HUI PŌHAKU 'Ō HAWAII

## Rock & Mineral Society of Hawai'i, Inc.



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### GYPSUM

BY DEAN SAKABE

To start the New Year, we will be highlighting rather industrial mineral: Gypsum. Gypsum, a Hydrated Calcium Sulfate, is one of the more common minerals in sedimentary environments. It is a major rock forming mineral that produces massive beds, usually from precipitation out of highly saline waters. Gypsum can have many inclusions of other minerals and even trapped bubbles of air and water.

Gypsum crystals can be colorless and transparent, despite being used in the white drywall we are all familiar with. Gypsum is also a natural insulator, and it feels warm to the touch when compared to a more ordinary rock or quartz crystal. Sheets of clear crystals can be easily peeled from a larger specimen.

Plaster of Paris is made by heating gypsum to about 300 degrees Fahrenheit, driving 75% of the water out of the mineral. This reaction absorbs energy, enabling a sheet of drywall to resist fire for a while. If Gypsum were heated further to about 350 degrees F, the remaining water is driven out, and it converts into the mineral anhydrite.

Gypsum can form in sandy areas, and when forming, the crystals sometimes trap sand inside causing the specimen to become brown and opaque. These sand inclusions sometimes form hourglass formations in a crystal. They are also present in "Desert Roses", which are rosette shaped Gypsum with sand inclu-

sions. (1) Please note that the term "Desert Rose" also applies to rosette shaped Barite with sand inclusions, so these are two different minerals and should not be confused with each other.



(1) Desert Rose

As one of the club members once told me they collected Selenite spars from Kalama valley. When Kalama valley was developed into houses, the excess dirt was trucked off and dumped around (for lack of knowing the right name) Makapuu, the area on the other side of the road from Hawaii Kai Golf Course. Digging in this area, especially after all of the rain we have been having, Selenite rosettes can be found .

### MEETING

Wednesday

January 28

7:00—9:00 pm

Makiki District

Park

Administration

Building

### NEXT MONTH

TBD

### LAPIDARY

Every Thursday

7pm-9pm

Second-floor Arts

and Crafts Bldg

Makiki District

Park

### MEMBERSHIP

COSTS

2008

Single: \$10.00

Family: \$15.00

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## Gypsum, page 2

These specimens can be small and fragile, and should only be cleaned only with water. Soaps and detergents should not be used; they enter cracks and crevices of a crystal, destroying its luster. Ultrasonic cleaners filled with water work great with rosettes.

Other crystal habits include the tabular, bladed, or blocky crystals with a slanted parallelogram outline. The pinacoid faces dominate with jutting prism faces on the edges of the tabular crystals (2). Long thin crystals show bends and some specimens bend into spirals called "Ram's Horn Selenite." (3)

There are two types of twinning. One produces the shorter "spear head twin" or "swallowtail twin." The other type produces a potentially larger "fishtail twin".

Gypsum has several varietal names that are widely used in the mineral trade:

Selenite is the colorless and transparent variety that shows a pearl-like luster and has been described as having a moon-like glow (4). The word selenite comes from the Greek for Moon and means "moon rock". Selenite was used for windows before glass was created. It contains a large amount of water, and this gives it fire protection qualities.

Another variety is a compact fibrous aggregate called satin spar. This variety has a very satin-like look that gives a play of light up and down the fibrous crystals.

A fine grained massive material is called alabaster and is an ornamental stone used for centuries in fine carvings. It is thought that the first uses of gypsum were for sculptures. Alabaster is a soft solid form of gypsum that takes carvings well thus it was able to be carved into many differently shaped objects.

Gypsum crystals can be extremely large - among the largest on the entire planet. A cave in Naica, Mexico, The Cave of Swords, contains crystals that dwarf the people inside (5). The ideal conditions for the slow growth of gypsum were maintained for thousands of years, allowing a few crystals to grow to enormous sizes. At Pilar de Jarravia, Spain, there is a gypsum geode currently thought of as the largest geode in the world.



(2) Blocky crystal habit



(3) Ram's Horn Selenite.



(4) Selenite



(5) Giant gypsum crystals up to 12 m, Naica mine, Mexico

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## News and Notes, page 3

### DOOR PRIZES

Please note that we have instituted door prize drawings at our monthly meetings. Because of Hawaii's gambling laws, these drawings cannot be conducted in the common "raffle" format where tickets are sold. Rather, each *paid* member attending the meeting will receive a drawing ticket upon request. A voluntary donation of \$1.00 is requested and encouraged. Drawings will be conducted at the end of the meeting with available prizes awarded in random order. You must be present to win. Please remember: if you win a prize, please bring one to the next meeting. This helps to keep our drawings going. Thank you.

### WE HAVE A WEBSITE!

[http://pohakugalore.net/Hui\\_pohaku/Hiu\\_pohaku\\_1.html](http://pohakugalore.net/Hui_pohaku/Hiu_pohaku_1.html)

**MAHALO TO MARKUS FOR HELPING US GET OUT OF THE ELECTRONIC STONE AGE!**



Inside a gypsum geode, Pilar de Jarravia, Spain

### ALAN ZEIGLER SINKHOLE DEDICATION!

What wonderful news concerning about the preservation of areas of scientific interest here in Hawai'i! Since the Hawaiian islands are so isolated, the presence of eagles, owls, ducks, and geese in these sinkholes by Kapolei boat harbor is especially noteworthy. Keith Krueger was pleased to share this news, and to tell that Bill and other members of our rock club presented testimony to the city council. Funds have been set aside of zoning and education.

### Rock & Mineral Society of Hawai'i, Inc.

#### 2008 Officers

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The Rock & Mineral Society meets on the 4th Wednesday of each month (except for adjusted dates in November and December) at the Makiki District Park, 7:00 - 9:00 pm. Enter from Keeaumoku Street. Parking is free but limited.

The Newsletter is published monthly, some days prior to the meetings and is distributed in electronic format by email (Adobe Acrobat PDF file attachment). Printed copies are "snail" mailed to those who do not have email. The electronic format usually contains full-color images; the print version may be limited to B&W due to reproduction costs.

Any newsletter comments are appreciated, and can be sent to [elise.thomasson@gmail.com](mailto:elise.thomasson@gmail.com)

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