



General Information for Glacier Mud

Where is it originated?

Glacier Mud is a resource found in mineral deposits on the pacific coastal region. It was created below sea level giving it ozone and nutrients from the sea. Pressure and time forced the clay to its present position 250 feet above sea level. Bacteria and live organisms are non-existent.

What is it good for?

The clay contains 13 minerals and 26 trace elements and has been naturally preserved and sterilized. It is a unique product because of the negatively charged ions, which attract positively charged ions on the skins surface, thus removing bacteria, cleaning and tightening pores, and creating greater blood circulation through enhanced rejuvenation of the skin. The product is excellent for treating acne amongst adolescents, oily skin, greasy hair, insect bites, burns, scalds, and bruises. All of which makes this product exceptional and very marketable to skin care facilitators worldwide because it is natural and assists purification and detoxification of the skin without using chemicals or additives.

Which families of clay does it belong?

Glacier Mud is categorized as either inter-tidal or dry-land. Inter-tidal clay has been covered by water 50% of the time and because of this has a high bacterial count due to the microorganisms that die, when the clay is harvested. Companies supplying the market with inter-tidal clay mix a strong anti-bacterial agent into the clay in order to guard against bacterial growth in hot climates. The inter-tidal clay has been exposed to the elements for thousands of years, subjected to sunlight, to the release of ozone, and to the living organisms, which lived and died in the clay. The loss of ozone in inter-tidal clay changes its colour from deep blue to a dark gray green. Dry-land clay has been covered by a natural overburden for thousands of years and because of this natural protection, the clay when first exposed, is a deep blue color indicating that it has retained natural ozone. The overburden prevents any contamination making this clay much purer than inter-tidal clay. Our **Glacier Mud** is dry-land clay.

Both inter-tidal clay and dry-land clays possess the same chemical or mineral constituents, but the level of silicates may be slightly lower in dry-land clay. Freezing temperatures will not harm glacial clay; neither

will extremely hot temperatures, provided the clay has been properly prepared.

Who are the competitors?

Glacier Mud is a very unique product that has very few competitors on the world market. The main competitors are:

- **The Dead Sea Mud** which originates in the Middle East
- **Moor Mud** from Europe and
- **White Clay** in the mid-western regions of the United States

Dead Sea Mud is similar to **Glacier Mud** but contains a higher level of sodium. Because it is mined on the shores of the Dead Sea where the salt levels are around 28% it must be washed to remove the sodium, but some of its trace minerals are also lost. **Dead Sea Mud** is the largest selling clay in the world and its use dates back to Cleopatra. It is a good product with sales estimated in Us Asia and Europe of over US\$100,000,000.00 per year.

Moor Mud comes mainly from Austria but is found anywhere ancient peat bogs exist. Because it is made from preserved vegetation its chemical and mineral analysis is not like glacial clay. **Moor Mud** is widely used in spas worldwide and is very well accepted. Sales are not as large as the **Dead Sea Mud** but are still substantial, approximately \$50,000,000.00.

The **White Clays** of the United States are widely used, but for a different purpose. While it is used directly on the skin the main usage is as a filler or carrier in cosmetic compounds. The tonnage of this clay is not as large as the **Dead Sea Mud**; the acceptance is not as great. Its chemical analysis falls short of **Glacier Mud** and most of its elements are inert.

The only other company selling glacial marine clay is based in Richmond, Vancouver. They process and produce intertidal clay and have been moderately successful selling on the Asian market with a product called Nena. Estimated sales is around US\$1 million.

What are the physical properties?

Generally, clay properties are assessed by the following six criteria:

1. Mineral composition.
2. Non-mineral composition.
3. Texture.
4. Ion exchange characteristics.
5. Organic material.
6. Soluble salts.

Glacier Mud belongs to the green family of clays. According to Raymond Dextreit, an expert on clays

and the author of the book “OUR EARTH, OUR CURE”, the green family of clays is the most desirable and the only type recommended for ingestion. The clay’s colloidal structure means that the clay is formed in particles as fine as the mist in a fog bank. To be classified as colloidal the particles of the material must not exceed 0.001 millimeters in size. They may, in fact, be so infinitesimal as to be invisible under a powerful microscope. A cubic inch of these particles would have a total surface area of more than five thousand square inches. This tremendous surface area of the clays colloidal particles accounts for its incredible absorptive action.

In its unrefined state, **Glacier Mud** reveals a smooth texture when rubbed between the fingers and its fine texture can be enhanced buy using proper screening and adding of the correct water mixture. The greenish/blue/gray clay is a homogeneous mass, with a soft putty-like consistency when first removed from the clay beds. Over the years, "systems studies have included chemical analysis, x-ray diffraction, ultra and electron-photomicrography and electrophoretic studies that show the clay mined is a natural product composed of quartz and mica, representing a small course fraction, or grit; and an aluminum silicate, the particles of which are of such small dimension that some of them cannot be made clearly distinguishable even with the electron microscope".

When **Glacier Mud** is mixed, whipped or beaten with a rotary blade, the clay consistency changes. It changes from a dense, hard packed lumpy mass to a free flowing, less viscose, almost meringue like texture. After being processed the clay is easier to work and can be put into jars, bottles and tubes with the minimum of difficulty.

In tests conducted over the past twenty years it has been found that most clays have from a 7 to a 14 range on the alkaline side of the scale. Glacial Clay has a naturally balanced pH factor of 6.5-7.3, which is close to neutral and making it very desirable for skin and hair applications.

Glacier Mud in its natural state has moisture content of 35.5%. Unit weight (wet) is 1753 Kg/m³ or 2,943 lb./cu. yard, or 109-lb./cu foot. Specific gravity is 2.75. When comparing the percentage of mineral content, with other known clays, Carrie Cove clay is closest to Delft Marl clay which has approximately 50 to 64% silica, 13 to 15% aluminum, and 4 to 10% iron.

Glacier Mud possesses fantastic healing properties making people feel good when it is used as a cosmetic application. It offers certain outstanding qualities: the ability to rejuvenate the skin when used as a facial mask or body wrap, the exfoliation of dead skin, the ability to help clear up acne, and to help people with oily skin. It soothes burns and scalds. Insect bites don’t itch after application. Teenagers claim that the inclusion of **Glacier Mud** in shampoo rids grease from their hair. A gift of nature, Glacial Marine Clay is 100% fragrance free, thus eliminating allergic reactions. It feels wonderful when applied and improves circulation, detoxifying, and exfoliating away dead skin cells, while tightening wrinkles.

It leaves the skin soft, smooth and alive. It's the “Crème de la Crème” of facial massages, and because it is totally natural, it has a bio-stimulant effect on the cells, producing local warming, accelerating physiological

processes, and increasing cell division in surrounding tissue. It is the perfect balancer and revitalizer. **Glacier Mud** facial masks help reverse the effect of age on the surface skin, rejuvenates tired complexion and renews the skins elasticity.

Major components:

Silicate	50 to 64%
Aluminum	13 to 15%
Iron	6 to 10%
Calcium	4 to 10%
Sodium	2 to 4%
Magnesium	2 to 6%
Potassium	up to 2%

plus 29 minor minerals including traces of rare earths.

Market potential

Glacier Mud has the potential to be marketed in four areas that immediately lend themselves to significant market penetration.

1. As cosmetic facial and body masks in skin clinics
2. Private labeling for those small or medium sized cosmetic manufacturers not large enough to do their own.
3. Naturopathic/therapeutic treatments.

1. Facial and body masks

Glacier Mud most obvious marketable benefits are in the cosmetic area, as a facial/body mask for tightening skin, erasing wrinkles, and improving blood circulation. The clay attracts positively charged bacteria; detoxifying, rejuvenating and revitalizing the skin to a new radiance. It is totally effective in removing a layer of dead skin cells (as well as old make-up from clogged pores), and acts positively on conditions such as acne, pimples, blotches, blemishes, blackheads, dry patches and facial oil imbalances. Application of the clay to the skin is very easy and removal needs only water and a clean sponge. It can also be used for a variety of skin conditions, including burns, bites, cuts and bruises.

A wide demographic audience awaits: teenagers with adolescent skin problems, middle aged adults desiring younger looking skin, and people with oily skin who will appreciate the absorptive benefits of this amazing stone-age gift. Recent test cases using Glacial Clay as a facial/body masque have elicited excellent responses from both women and men with several different skin conditions. In the forty years B.C. glacial clay has been used, there have been no reported incidents of adverse side effects.

The first and most logical end use application for **Glacier Mud** will undoubtedly be as a facial/body mask for bulk sales overseas. Its use in prestigious health spas and resorts as a therapeutic body wrap or full immersion treatment could be fantastic and a number of world famous resorts catering to the rich and the famous have used various types of clay applications in their programs. Glacial Clay product is perfect for such applications and its therapeutic value makes it even more desirable. Its use in spas as well as in body building gyms could represent an enormous market. The hospitality business is also full of potential and the introduction of this product to the hotels and cruise ships industries could be an enormous boost to over-all sales.

Immediate results can be noticed by having the customer apply the mask to one side of his or her face. After normal drying time, remove the clay with a wet sponge and the difference will appear obvious. The side with the application will be smoother and softer. Because of the natural pH balance of 6.5 to 7.3 **Glacier Mud** is ideal for skin and hair applications. A customer can add a small amount from tube or bottle to his or her regular shampoo for the first shampoo application, then apply only shampoo for the second application, and rinse normally. The clay helps tremendously in cutting "greases". **Glacier Mud** has been used, with promising results, for burns, scalds, cuts, athlete's foot, eczema and other topical skin conditions.

On initial application of **Glacier Mud** there may be a small percentage of users that find there is a slight redness after rinsing off the mask. Part of this reaction is due to the tremendous increase of blood circulation to the facial tissues and from the clay's ability to detoxify and pull out accumulations of impurities that are clogging the skin and pores. After several applications, at a rate of 2-3 per week, this reaction should subside leaving the skin softer and smoother.

2. Private labels

There are a large number of companies that fall into a category of not being large enough to do their own packaging. They require the mud packaged under their brand name in sachets and tubes. We are presently selling private labels domestically in Canada and Asian Pacific.

3. Naturopathic use

Thousands of naturopathic stores over North America already sell Glacier Mud dry powder from different locations. Our product can be marketed in wet or dry form as a natural treatment to ease the effects of acne, abrasions, burns, bee stings, sunburn, shingles, psoriasis and athletes foot. Naturopathic stores are a prime target for new natural products that are effective. This would be another new line and new packaging.

4. Medicinal use

The use of clay products as a treatment for radiation burns in cancer patients is being tested by one of the world's leading cancer skin care companies. It is also being considered as a possible treatment for psoriasis sufferers. When these tests are completed successfully, there will be a major increase in the use of our product.

Potential customers prioritized

1. Women and men of all ages: facial and body masks.
2. Adults and adolescence with oily skin.
3. Customers with skin cleansing problems caused by enlarged pores.
4. Customers with skin sensitivity, which prevents them from using beauty products containing alcohol, perfume, or oils.
5. Customers with a definite preference for natural products.
6. Customers who want to try a new skin experience but cannot use soaps, lotions, or astringents on their skin.
7. Customers who want to try a new facial or body mask application for problem skin conditions that have not responded to synthetic products.
8. Customers simply want a new experience in facial mask.

Processing for powdered Glacier Mud

This product has been processed to powder with a particle size of 41 microns or less. There have been no additives introduced to the product. This clay is exactly as it was 45,000 years ago when it was first deposited in a salt-water lagoon at the end of the last Ice Age. It is a 100% natural product of British Columbia, Canada.

During processing the clay has been heated to a temperature of over 240 degrees Fahrenheit. By so doing, any harmful bacteria such as pathogens, if any, have been destroyed. At time of packaging the product is "pathogen free" but it may contain normal air borne microbes. An antibacterial agent is recommended when packaging for resale.

Mixing instructions

Mixing with water

- For every 100 grams, mix in approximately 50 ml of water (always use a good source of water.)
- When mixing start with two thirds of the required water, add the powdered mud to the water in small amounts to ensure proper mixing. Retain one third of the water and add to you get the consistency required.

Mixing with other raw materials

- When including an essential oil, put the oil in with the water before the powdered mud

- Always add whatever ingredients you want to use, other than the mud, with the water before adding the powdered mud.

General

- Every 1,000 grams of powdered mud will make 1,500 grams of finished product.
- It will take 10 grams (1/3 oz) plus water, to make one facial. 1 pound of Glacial Mud powder on average can do 114 facial treatments with a 2 mm thickness.
- It will take 300 grams (10.5 oz) plus liquid, to make enough for one body wrap.
- If too much powdered mud is mixed and not used, keep in fridge overnight or in deep freeze over longer periods.
- If the mixed mud has become dried, add purified water to bring it back to the proper consistency.
- If mixing and using right away, an antibacterial agent is not necessary. The Canadian regulation requires that a anti-bacterial agent should be added to a premix product before selling to public. Hence powdered mud is exempted from this requirement.
- Glacier Mud can safely be used for oily, normal, dry and troubled skin
- Use 3 times a week for normal skin and more frequent i.e. daily for oily and troubled skin.

Direction of use for powdered mud:

- Mix powdered mud with purified water in the proportion of 2:1
- Stir it well until it reach the paste form
- Apply 1/16 to 1/8-inch layer of clay over the skin, avoiding the eyes and mouth
- Allow the mask to dry to its natural light green colour (15-20 minutes)
- Remove with a damp cloth or sponge

For more info.

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