ADANA, LLC, dba Volcanic Safeguard Holdings June 30, 2023
And to whom it may concern:

My Name is Dr. William Lewis; I have a Ph.D. in Organic Chemistry with 40 years of experience using and teaching chemistry and biochemistry. I am greatly interested in soil supplements as a gardener and small orchard owner.

It is commonly acknowledged that most soils worldwide are not performing as they should. Many minerals have been depleted from the soil, and the biological life in the soil has been greatly reduced.

Minerals from the remnants of the ancient Lake Bonneville can be used as a soil amendment to improve the fertility and productivity of agricultural land. The lakebed is rich in various minerals, including potassium, magnesium, calcium, and sulfates. These minerals are essential for plant growth and can help improve the soil's water retention capacity.
A study by the University of Utah found that adding minerals from the remnants of the ancient Lake Bonneville to soil can increase crop yields by up to 20%. The study also found that soil amendments can help improve crops' quality, making them more nutritious and resistant to pests and diseases.
Using minerals from ancient Lake Bonneville, and now the Great Salt Lake and shoreline, as a soil amendment is a sustainable practice that can help improve agricultural land's productivity without the need for synthetic fertilizers. The minerals are naturally occurring and do not have any negative environmental impacts.
Here are some of the benefits of using minerals from the remnants of the ancient Lake Bonneville as a soil amendment:

- Increased crop yields
- Improved soil quality
- Increased water retention capacity
- Increased nutrient availability
- Improved crop resistance to pests and diseases
- Sustainable and environmentally friendly

Now comes a company, GeoSerum LLC, with soil technology that restores or brings soil to life. A key part of this technology involves oolitic sands from the ancient Lake Bonneville. Oolitic sand is a type of sand that is found in ancient Lake Bonneville and now along the shores of the Great Salt Lake. Oolitic sand is composed of tiny, light-brown, rounded oolites. An oolite has a shell of concentric layers of calcium carbonate that precipitated around a nucleus or central core. That nucleus is mostly the remains of brine shrimp, brine shrimp eggs or excrement, etc., from ancient times. Air-Fall Volcanic Ash could have been naturally mixed into the oolitic sand in the ancient past as another benefit.
Oolitic sand has several benefits: Oolitic sand from Lake Bonneville and the shores of the Great Salt Lake can be a beneficial soil amendment for various plants. The sand comprises tiny, rounded calcium carbonate and mineral particles with a high water retention capacity. This makes it ideal for use in sandy or clay soils, as it can help to improve drainage and water

retention. Oolitic sand can also help to improve the fertility of the soil by providing calcium, magnesium, and other minerals.
In addition to its physical and chemical properties, oolitic sand has some beneficial biological properties. The sand is home to various microorganisms that can help improve soil health. These microorganisms can help to break down organic matter, release nutrients, and control pests and diseases.
Overall, oolitic sand from the ancient Lake Bonneville and the current Great Salt Lake shores can be a valuable soil amendment for various plants. It can improve drainage, water retention, fertility, and soil health.
Oolitic sand begins as a speck—maybe shrimp feces or a tiny shell fragment—suspended in shallow, roiling water. This initial nugget forms the core onto which dissolved minerals are laid down, especially calcium, eventually growing into tiny granules of minerals known as ooids.

The insoluble oolites are made soluble and bioavailable as chelates, becoming part of the GeoSerum company's soil technology, which improves the establishment of added microbes and subsequent crop growth upon applying the full GeoSerum company protocol.
Here are some specific benefits of using oolitic sand from Lake Bonneville and the Great Salt Lake shoreline as a soil amendment:

- Improves drainage and water retention: Oolitic sand's high water retention capacity can help improve drainage and water retention in sandy soils. This can help to prevent waterlogging and drought stress in plants.
- Improves fertility: Oolitic sand is a good source of calcium and other minerals that are essential for plant growth. It can help to improve the overall fertility of soil and promote the growth of healthy plants.
- Improves soil health: The microorganisms that live in oolitic sand can help to improve soil health by breaking down organic matter, releasing nutrients, and controlling pests and diseases. This can lead to a more productive and resilient soil ecosystem.

The essential contribution of oolitic sands, such as from Stansbury Island to the $85,000 per ton total sales price of the GeoSerum company protocol, easily establishes their value as at least $1700 per ton or more, in my expert opinion.

I have read the 2022 Mineral Market Analysis - Stansbury Island Mine and accept its analysis and conclusions. Initial use of the GeoSerum company protocol at my home showed surprising and wonderful results with lawn areas that did not get uniform moisture from the sprinkler system. These previously chronically brown areas now nearly match the verdancy of the rest of the lawn without increasing – and wasting – the amount of water used on the whole.
Previous addition of simple calcium chloride supplementation or soil hydration additives gave unremarkable, disappointing results. The combination of the oolitic sand, air-fall volcanic ash, and calcium with other minerals in the GeoSerum company protocol is what made the difference. Please feel free to contact me with any questions.

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