



# GEM SCOOPS



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Pendleton District Gem and Mineral Society

March 2015

## Learn About Mt. St. Helens Eruptions

### President's Remarks

This month's speaker, Dr. Richard Warner, presents three eruptions of Western US Volcanoes, specifically, the eruptions of Mount Saint Helens, Mount Lassen, and Katmai. Mt St Helens awakened in March 1980 after being dormant for 123 years. Numerous earthquakes and relatively mild eruptions occurred during the next two months.

At 8:32 AM on the morning of May 18 a magnitude 5.1 earthquake triggered a huge debris avalanche accompanied by an explosive lateral blast, numerous pyroclastic flows, devastating volcanic debris flows and mudflows (lahars), and a tremendous tephra plume that injected ash into the stratosphere for 9+ hours. Smaller explosive eruptions followed over the next months, then between late 1980 and 1986 a lava dome hundreds of feet tall grew within the new crater.

More recently (2004-2005) a new, larger lava dome has appeared. Comparable in scope was the 1914-1917 eruption of northern California's Lassen Peak, another Cascade volcano and one of the largest volcanic domes in the world.

### MARCH MEETING

**WHEN:** March 17, 2015 at 7:00 p.m.  
**WHERE:** The Olli Classroom Building  
**SPEAKER:** Dr. Richard Warner, Faculty at Clemson  
**TOPIC:** Mt.St Helens: Three 20<sup>th</sup> Century Explosive Eruptions. Dr. Richard Warner, Professor Emeritus from the Clemson geology group, will present "Mt. St. Helens, Lassen Peak and Katmai: Three 20<sup>th</sup> Century Explosive Eruptions."  
 Refreshments will be served by John Ishler. Visitors are welcome.

Lassen Volcanic National Park contains over 30 volcanic domes constructed during the last 300,000 years. It is also home to hot springs and other thermal features, as well as a basaltic cinder cone dating from 1850-1851. Larger than either Mt St Helens or Lassen Peak was the cataclysmic June 1912 eruption of Alaska's Katmai Volcano. It was not until 1916 that a scientific expedition first reached the site and beheld a valley filled with myriad awe-inspiring fumaroles which they named 'The Valley of Ten Thousand Smokes'. This valley was created by a pyroclastic flow that deposited volcanic ash up to 700 feet deep.

Come learn all about volcanos in the United States.

### Abbreviated Minutes

Of course, there are no minutes for the February meeting because it was canceled due to the Weather. Scott Brame's talk will be scheduled later.

### SFMS 2015 Workshop Schedule

**Session One – William Holland**  
SUNDAY, June 7-13, 2015

**Session Two – Wildacres**  
MONDAY, August 17-23, 2015

**Session Three – Wildacres**  
MONDAY, September 21-27, 2015

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**APRIL MEETING**

The next meeting of the PDGMS will be on April 21, 2015. Put it on your calendar.

*Carol*



**Mount St. Helens before violent eruptions in 1980.**

## Gemstones from Mt. St. Helens

**Helenite**, also known as **Mount St. Helens obsidian**, **emerald obsidianite**, and **ruby obsidianite**, is a synthetic gemstone made from the fused volcanic rock dust from Mount St. Helens. Helenite was first discovered accidentally after the eruption of Mount St. Helens in 1980. Workers from the Weyerheuser Timber Com-

pany were attempting to salvage equipment damaged after the volcanic eruption. Using acetylene torches they noticed that the intense heat was melting the nearby volcanic ash and rock and turning it a greenish color. The silica, aluminum, iron, and trace amounts of chromium and copper present in the rocks and ash in the area, combined with the heat of the torches, transformed the volcanic particles into a compound that would be later commercially replicated as helenite.

As word of the discovery spread, jewelry companies took note and began to find ways to reproduce the helenite. Helenite is made by heating rock dust and particles from the Mount St. Helens area in a furnace to a temperature of approximately 2,700 °F (1,480 °C). Although helenite and obsidian are both forms of glass, helenite differs from obsidian in that it is man-made. However, ob-

dian, along with silica quartz, can serve as a component of helenite. The stone has found footing in the jewelry industry because of its emerald-like color, good refractive index, and durability. It is seen as an inexpensive alternative to other naturally occurring green gemstones like emerald and peridot. Helenite can also come in various red, green and blue varieties.

Copied from Wikipedia.

