



HAGS/AEG – Meeting Announcement

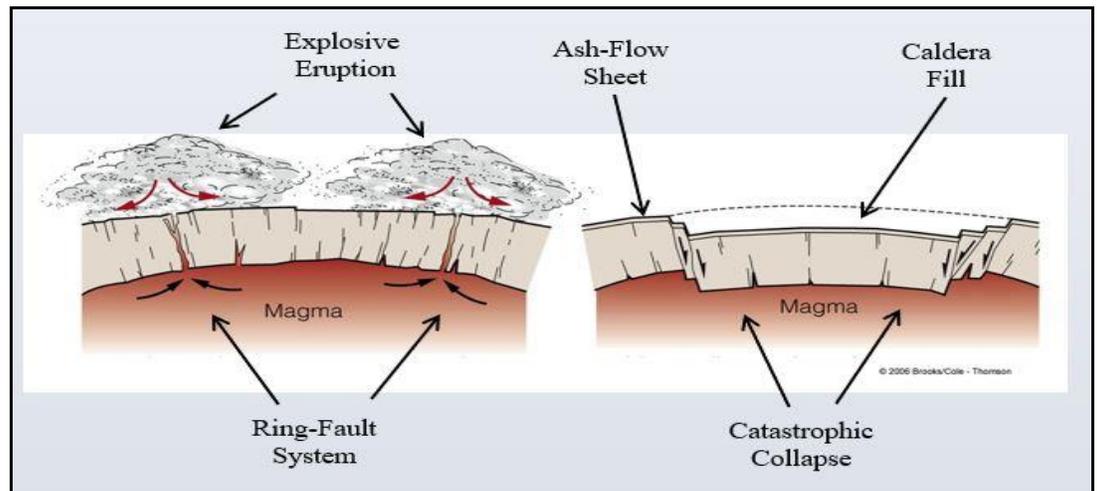
Thursday, March 14, 2019 6:30 p.m.

Big Hill Caldera and the Origin of Rhyolites at South Mountain, Pennsylvania

Presented by: Mark Tucker, P.G., Volunteer Geologist with the PA Geological Survey

Abstract: The story of Big Hill Caldera begins in the Late Proterozoic with crustal thinning and extension. A ring-fault system developed with a diameter of at least 12 miles. An obsidian flow, the Snaggy Ridge Rhyolite, was extruded during the early development of the ring fault system. Subsequently, a large plume of rhyolitic magma rose through the crust and was released with an explosive eruption. Pyroclastic material was ejected outward to form a 2,500-foot thick ash-flow sheet, the Culp Ridge Tuff. The enormous volume of magma removed from the subsurface resulted in catastrophic collapse to form the Big Hill Caldera. Concurrent with caldera collapse, fountains of lava poured onto the caldera floor and formed vitreous welded tuffs up to 5,000 feet thick, the Big Hill Rhyolite. The catastrophic collapse of the Big Hill Caldera resulted in down-dropping of 5,000 to 10,000 feet. Post-collapse caldera-fill material of the Buchanan Valley Volcanic Complex included volcanic landslide breccias, volcanic mud flow deposits (lahars) and pyroclastic tuffs along with interlayered basalt and rhyolite flows.

Speaker Bio: Mark Tucker is a Volunteer Geologist with the Pennsylvania Geological Survey where he is conducting geologic mapping. He is also a Professional Geologist. Current project work includes oversight of horizontal directional drilling for pipeline construction. He holds a B.S. in Geoscience from Indiana University of Pennsylvania and an M.S. in Geology from the University of Pittsburgh.



Meeting Location:

AEG Offices
441 Friendship Road
Harrisburg, PA
(not far from Bass Pro Shops)

Dinner at 4:45 – 6:15
Fiesta Mexico
3957 Paxton Street
(between Ruby Tuesday
and Nissan dealership)

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RSVP for dinner & meeting by no later than noon Tuesday, March 12, 2019.

RSVP Amy Randolph at secretaryhags@gmail.com or 717.395.3181.

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