



Vent Chimney Cross Section Samples



Cross section of a hydrothermal vent chimney from the Galapagos Spreading Center, collected during a 2005-2006 expedition by NOAA Ocean Exploration. *Image courtesy of Rachel Haymon.*

https://oceanexplorer.noaa.gov/explorations/05galapagos/logs/jan3/media/chimney_zoning.html



Cross section of a hydrothermal vent chimney from East Diamante Caldera in the Mariana volcanic arc, west Pacific Ocean, collected during a 2010 research cruise by the USGS Pacific Coastal and Marine Science Center. Most of the sample is zinc sulfide. Silica lines the conduit through which the water flowed; a trace of iron imparts the yellow color. *Image courtesy of James Hein, USGS.*

<https://www.usgs.gov/media/images/cross-section-a-hydrothermal-vent-chimney>



A piece of a chimney spire collected from the slope of the East Diamante volcano in the Mariana volcanic arc. It has been cut in half and is 22 cm long. The interior of the chimney is lined by a copper-rich mineral called chalcopyrite. The gray-and-white zone near the exterior of the chimney is composed of iron, zinc and barium-rich minerals called pyrite, sphalerite and barite. *Image courtesy of NOAA Vents Program.*

<https://oceanexplorer.noaa.gov/explorations/04fire/logs/april06/media/rockcut.html>