

OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

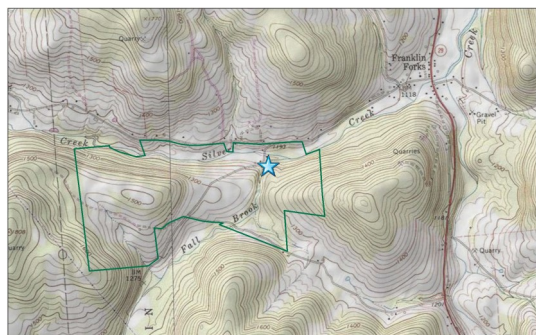
SALT SPRING, SUSQUEHANNA COUNTY

Stuart O. Reese, 2016



Location

Salt Springs State Park, Susquehanna Co., Franklin Twp., lat: 41.9117, lon: -75.8648; Franklin Forks 7.5-minute quadrangle



0 0.5 Mi



Geology

Salt Spring at Salt Springs State Park is a fairly rare saline spring in Pennsylvania. It was discovered by American Indians, but white settlers quickly developed a keen interest in an easy source of salt. Following the disclosure of the location, workers in the early 1800s drilled a well to a depth of 300 feet near the original salt spring. It was deepened several times over the years, until it was eventually 800 feet deep. Reportedly, no fresh water occurs below 380 feet.

Today, a walled-in, small-diameter pipe shows the location of Salt Spring. Little flow is typically apparent from the borehole. The source of the salt is likely shallow saline water that came from ancient seas and then was trapped in the pores of Devonian sandstones. In northeastern Pennsylvania, the freshwater-saltwater interface is not very deep beneath the valleys. Methane bubbles, which indicate the presence of shallow natural gas from the decomposition of organic matter, can be seen floating to the top of the borehole.

The most likely cause of Salt Spring is the presence of fractures in the valley that provide a connection to the surface for water circulating along a deeper flow path over the area. The recent Pleistocene glaciation disrupted the prior topography and its groundwater circulation, possibly to the extent that salty water is today being flushed with fresh groundwater flow. More than 100 feet of glacial till blocked the path of Fall Brook and diverted it across a topographic saddle and into Silver Creek to the north. Salt Spring is located at the base of the hill next to where these two streams merge.



The Salt Spring borehole.



Fall Brook at Salt Springs State Park.

Recommended Reading

Inners, J. D., Braun, D. D., Adleman, Debra, and Kochanov, W. E., 2002, Stop 10, Salt Spring State Park—the Salt Spring, Fall Brook gorge and waterfalls, and gas well, *in* Inners, J. D., and Fleeger, G. M., eds., From Tunkhannock to Starrucca—Bluestone, glacial lakes, and great bridges in the “Endless Mountains” of northeastern Pennsylvania: Annual Field Conference of Pennsylvania Geologists, 67th, Tunkhannock, Pa., [Guidebook](#), p. 115–128 p.

[Salt Springs State Park](#) web page of DCNR.