Jones Spring is located in the bed of the intermittent stream Walnut Creek. Walnut Creek is also a disappearing stream. Water flows down along the Hensell Sand Member in the bed of Walnut Creek until it reaches the contact with the Cow Creek Limestone. This limestone is a coquina that formed from the compaction and cementation of marine shell fragments. Chemical weathering has since caused some of the shell to dissolve forming pore spaces through which water can flow. When the water in Walnut Creek reaches this weathered coquina it seeps into the ground. Below the Cow Creek Limestone is the Hammett Shale. When the water reaches this impermeable layer it flows out forming Jones Spring.