Kennedy Mine Geology:

The Kennedy Mine extracted gold from rock, usually quartz rock. It is thus known as a hard rock gold mine. Most of the mines along the Mother Lode were hard rock gold mines, which means that the rock had to be crushed in order for the gold to be extracted.

Both the Kennedy and its neighbor to the South, the Argonaut, were located on the Mother Lode. The Mother Lode is a fault line approximately 150 highway miles long. It south end line is about two miles south of Mariposa and its north end line is at the middle fork of the American River. It is not a continuous break in the earth, but rather a series of individual breaks, sometimes as many as four parallel to each other, known as fissures. The Kennedy and Argonaut mines were located along the same fissure.

The fissures of the Mother Lode were caused when the upper layer of the earth cracked open, and a hot silica solution was forced up through the crevices along the broken rock of the fissures. As the solution cooled, it trapped the gold and other minerals, and solidified into quartz rock. Quartz contains a high amount of silica. Most of the gold along the Mother Lode, especially in the Kennedy Mine, was found in quartz.

The quartz rock with the gold content was discovered to lie in a diagonal plane in the earth toward the East. Therefore, a vertical shaft was begun in November 1898, which is 1950 feet to the east of the North Shaft near Highway 49/88, to intercept the layer of quartz rock in 1912 at 3716 feet below the surface.